

# **USAID Child Survival and Disease Programs Fund Progress Report**

**Fiscal Year 1999**

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## Executive Summary

Millions of children in the developing world die each year from preventable causes while millions of adults are killed by HIV and tuberculosis. In 1985, the U.S. Congress created the Child Survival Program to demonstrate America's strong commitment to saving children's lives. In 1986, USAID began an HIV/AIDS prevention effort in response to the growing epidemic. In 1997, Congress established the Child Survival and Disease Programs (CSD) Fund, which brought together in a single account USAID's Child Survival, HIV/AIDS, maternal health, and basic education efforts. In 1998, Congress added funding for an infectious disease initiative. These priority interventions work together to save lives and promote child health and development in developing countries. USAID continues to be a technical leader and innovator in these priority areas.

This progress report documents key activities funded by the CSD account and those direct child survival and disease control activities funded by other accounts such as the Economic Support Fund, the Freedom Support Act, and the Support for East European Democracy (SEED) fund.

In FY99, major allocations were made in the following categories:

- **Child Survival and Maternal Health.** \$272 million supported immunization systems; maternal health programs; support for building health systems and health capacity; and other core child survival and related efforts; \$25 million supported the polio eradication initiative; \$12 million the displaced children and orphans program; and \$25 million the micronutrients program. Of these funds, over \$50 million was used to improve maternal health and survival.

- **HIV/AIDS.** \$125 million supported USAID's efforts to reduce HIV transmission and the impact of HIV/AIDS in developing countries. In 1999, \$10 million in supplemental funds targeted children affected by HIV/AIDS.
- **Infectious Disease Initiative.** \$50 million supported USAID's initiative to reduce the threat of targeted infectious diseases, including malaria and tuberculosis; to reduce the spread of antimicrobial resistance; and to improve disease surveillance and response.
- **Basic Education.** \$98 million supported USAID's basic education for children program.

In addition to funding from the CSD account, approximately \$30 million from the Economic Support Fund, the Freedom Support Act, and SEED funds supported child survival and disease control programs in selected countries and the former Soviet Union and Eastern Europe. Also in FY99, \$50 million of supplemental child survival funds were made available to USAID and used for children affected by HIV/AIDS, relief efforts in the hurricane affected areas of Central America, and for programs to address the needs of children affected by the Asian financial crisis. USAID also received an emergency supplemental appropriation, of which \$144 million was allocated to reconstruct water, sanitation, and health systems following Hurricanes Mitch and Georges. Finally, a substantial amount of the overall Food for Peace resources directly benefited children and their mothers.

Between 1985 and 1999, the cumulative effect of child survival programs supported by USAID and the rest of the development community was no less

than a 20% reduction in under-five mortality. In addition, USAID made progress in HIV/AIDS prevention efforts, especially in the areas of education and condom promotion. USAID support for basic education has increased enrollment rates and reduced gender gaps in targeted countries.

Building on these efforts, some of the highlights for FY99 include:

- **Polio.** In what was the largest public health activity in history, over 470 million children were immunized against polio during National Immunization Days — 130 million alone in a single day in India. Since inception of the polio eradication effort, annual reported cases have dropped by 85%. Strong global collaboration and support must be maintained, however, to interrupt polio transmission by the end of 2000 or shortly thereafter, and to achieve the goal of global certification of a polio-free world by 2005.
- **Immunizations.** USAID joined WHO, UNICEF, the private sector, and others in the creation of the Global Alliance for Vaccines and Immunizations (GAVI) to enhance national immunization programs and introduce newer vaccines in developing countries. A USAID initiative, launched in 1999, will boost immunization programs in 15 USAID-assisted countries where progress is lagging.
- **Vitamin A.** In 1998–9, USAID assisted 18 countries in adding Vitamin A capsule distribution to National Immunization Days. Six of these countries achieved more than 50% coverage of children. Through USAID's efforts, fortification became a significant source of Vitamin A for vulnerable populations in Central America and Zambia.
- **Breastfeeding.** USAID supported activities to increase the initiation, exclusivity and duration of breastfeeding in all regions. In the 1990's exclusive breastfeeding increased in nine target countries from about 30 to 40%, contributing to reductions in infant and child morbidity and mortality.
- **Controlling Diarrheal Diseases (CDD).** USAID improved and expanded diarrheal disease case management at the clinic and community levels. These efforts contributed to an increase in the use of life-saving oral rehydration therapy (ORT) to treat childhood diarrhea in all regions. For example, use of ORT increased from about 60% in 1990 to over 85% today in USAID's Asia and Near East (ANE) assisted countries.
- **Combating Acute Respiratory Infections (ARI).** USAID provided technical leadership and other support to improve and expand clinic- and community-based treatment of ARI in children. In the past five years, the number of children reached by effective ARI treatment steadily increased in USAID-assisted countries (e.g., from about 50% in 1990 to about 60% today in USAID's Africa region).
- **Integrated Management of Childhood Illness (IMCI).** USAID worked with WHO, UNICEF, and other partners to develop and initiate the IMCI approach. IMCI will allow countries to expand CDD, ARI, malaria, and immunizations in an integrated, cost-effective manner. The strategy is being implemented in 63 countries, 23 with USAID support.
- **Malaria.** Improving management and access to appropriate antiparasitic drugs is pivotal in reducing mortality due to malaria. In remote

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health centers in western Kenya, the establishment of a revolving drug fund increased from 20 to 80% the proportion of health centers with access to appropriate drugs for malaria.

- **Tuberculosis.** As one of the newest program elements in its health sector, USAID has begun tuberculosis (TB) programs in 12 countries and will expand the program significantly in 2000 and 2001. USAID is also a founding member of the WHO-led STOP TB initiative, a global effort to coordinate and expand the international response to TB.
- **HIV/AIDS.** The HIV/AIDS pandemic is reaching crisis proportions. In Africa, this epidemic jeopardizes 40 years of economic and health development and has begun to affect under-five mortality rates and major economic indicators. USAID and other donors are now reinforcing their support of primary prevention and their efforts to mitigate the impact of this pandemic on those most affected. In 1999, USAID's intensified support was reflected in the expansion of condom social marketing programs. Through these programs, USAID contributed to an over 20% increase in condoms distributed in key countries, thereby preventing transmission of HIV/AIDS and increasing condom use by individuals in high-risk situations.
- **Maternal and Neonatal Health.** USAID continues to support the introduction of life-saving maternal and neonatal health interventions into community and maternity services. As a result, USAID has contributed to increasing rates of births attended by skilled health personnel (a proxy indicator for maternal mortality) in the ANE and Latin America and

the Caribbean (LAC) regions, despite no progress in Africa.

- **Basic Education.** Attainment of education, particularly for girls and women, is strongly associated with improvements in maternal mortality and child survival. USAID support for basic education helped ten African countries increase their enrollment rates. USAID's efforts also helped reduce the gap between boys' and girls' enrollments in targeted ANE countries from 30% in the mid-1980s to 21% today.

## *Partnerships*

USAID collaborates with a wide range of public and private partners including host-country governments—especially ministries of health, UNICEF, the World Health Organization (WHO), the World Bank, the Centers for Disease Control and Prevention (CDC), other U.S. government agencies, U.S. private voluntary organizations (PVOs) and non-governmental organizations (NGOs), U.S. universities, and bilateral donors.

USAID works diligently to deepen private sector involvement in child survival and disease control efforts. The Agency supports and coordinates the research efforts of universities and private companies to develop new technologies that improve child health. It supports U.S.-based and local PVOs in the delivery of services to hard-to-reach children and families and the mobilization of community and family involvement. It encourages private companies worldwide both to provide life-saving goods and services to poor children and to promote the adoption of healthy behaviors. USAID has firmly enlisted the U.S. food industry, for example, in the promotion and delivery of Vitamin A supplements. In 1999, USAID formed the Enhanced Vitamin A Effort (VITA) alliance with major food companies to

encourage food fortification and other priority Vitamin A interventions.

Significant gains have been made in improving child and maternal health and in reducing the risk of infectious disease, including HIV/AIDS. As a global leader and one of the largest bilateral donors in the health and nutrition sector, the Agency has played an important role in and can take significant credit for these achievements. Hard-won gains in development will be sustained by maintaining our commitment to child survival, disease control, and basic education.

## USAID Child Survival and Disease Programs Fund

### Progress Report • Fiscal Year 1999

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#### Introduction: USAID—The Child Survival and Disease Programs Fund

##### *Background*

Millions of children in the developing world die each year from preventable causes, while millions of adults are killed by HIV/AIDS and tuberculosis. In 1985, the U.S. Congress created the Child Survival Program to demonstrate America's strong commitment to saving children's lives. In 1986, USAID initiated an HIV/AIDS prevention effort in response to the growing epidemic. In 1997, Congress established the Child Survival and Disease Programs Fund (CSD), which brought together in a single account USAID's Child Survival, HIV/AIDS, maternal health, and basic education efforts. In 1998, Congress added an infectious disease initiative. These priority interventions work together to save lives and promote child health and development in developing countries.

This progress report documents key activities funded by the CSD account and those direct child survival and disease control activities funded by other accounts such as the Economic Support Fund, the Freedom Support Act, and the Support for East European Democracy Act (SEED) funding.

USAID is an acknowledged leader and major donor in child survival and disease control. For more than 30 years, the Agency has been responsible for important program innovations and for forging strong coordination among its international partners and recipient governments. Improved coordination has increased the exchange of experiences and lessons

learned, enhanced the impact of programs, and avoided unnecessary program duplication.

U.S. leadership in global health has been critical not only because reducing human suffering wherever it occurs is an important national goal but also because general low health status in developing countries can affect global ecological, economic, political, and social stability. Protecting health saves lives, improves the quality of life, prevents humanitarian crises, and enhances economic productivity. Improving basic education levels also has significant social and economic payoffs.

Hard-won gains in development will be sustained by maintaining the U.S. commitment to improving child and maternal health, reducing the risk of infectious diseases, including HIV/AIDS, and extending basic education. Child survival and disease control programs also serve U.S. national interests by protecting regional stability, promoting environmentally sustainable global economic growth, and by protecting Americans from the threat posed by infectious diseases.

USAID child survival and disease programs are active in USAID's Africa, Latin American and the Caribbean (LAC), and Asia and Near East (ANE) regions. In addition, Economic Support Funds, Freedom Support Act, and SEED funds support related activities in the Europe and Eurasia (E&E) region and in other countries. The CSD appropriation

also traditionally includes funding for a grant to UNICEF. In FY99, major allocations from the CSD account were made in the following categories:

- **Child Survival and Maternal Health.** \$272 million devoted to USAID's core child survival efforts, including improving immunization systems, addressing acute respiratory infections, treating and preventing diarrheal disease, improving maternal health, reducing malaria in children, combating malnutrition, and support for building health systems and health capacity. This also includes \$25 million for the polio eradication initiative, \$12 million for the displaced children and orphans program, and \$25 million for micronutrient programs. With these funds, USAID also supports the Child Survival Private Voluntary Organization grants program, as well as research on improving child health interventions.
- **HIV/AIDS.** \$125 million supports USAID's efforts to reduce HIV transmission and the impact of HIV/AIDS on developing countries. Almost half of USAID's HIV/AIDS resources are focused on Africa, where the HIV/AIDS epidemic is most severe. USAID is increasing its HIV/AIDS programs in Asia and Latin America, where the epidemic is spreading rapidly, and the agency is also a major supporter of the Joint United Nations Programme on HIV/AIDS (UNAIDS). In 1999, \$10 million in supplemental funds was targeted to children affected by HIV/AIDS.
- **Infectious Diseases.** \$50 million supports USAID's initiative to reduce the threat of infectious diseases. Working in close collaboration with international, U.S., and developing country partners, USAID seeks to increase the capacity of institutions within

developing countries to reduce the spread of antimicrobial resistance, improve control of tuberculosis, reduce mortality due to malaria and communicable diseases, and improve local capacity to undertake disease surveillance and response.

- **Basic Education.** \$98 million supports USAID's basic education for children program. USAID works to strengthen preprimary, primary, and secondary education and to increase students' basic education completion rates by expanding access to basic educational services and improving the quality of instruction. USAID's education program support is directed mainly to Africa, with targeted programs also active in Asia and the Near East and Latin America.

In addition to funding from the CSD account, approximately \$30 million from the Economic Support Fund, the Freedom Support Act, and SEED funds supported child survival and disease programs in selected countries and the former Soviet Union and Eastern Europe. Also in FY99, \$50 million of supplemental child survival funds were made available to USAID and used for children affected by HIV/AIDS, relief efforts in the hurricane affected areas of Central America, and for programs to address the needs of children affected by the Asian financial crisis. USAID also received an emergency supplemental appropriation, of which \$144 million was allocated to reconstruct water, sanitation, and health systems following Hurricanes Mitch and Georges. Finally, a substantial amount of the overall Food for Peace resources directly benefited children and their mothers.

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## *Overall Progress*

Since 1985, child survival interventions have saved the lives of millions of children in developing countries. From 1985 to 1999, USAID played a central role in developing and implementing interventions that have had a major impact on infant and under-five mortality. After 15 years of intense international investment, today's immunization programs in the developing world routinely administer hundreds of millions of doses of vaccine to children. Widespread use of oral rehydration therapy (developed with USAID funding) has reduced deaths from diarrhea. Increased access to Vitamin A, whose wide distribution is supported by USAID, has been shown to improve vulnerable children's chances of survival by up to 30%. Breastfeeding, promoted by USAID programs, helps nurture millions of newborns worldwide giving them an increased chance of survival because of better nutrition and improved immunity. New interventions for malaria, developed and applied with USAID funding, are improving treatment and diagnosis and provide protection from malaria in the home. In the past five years, USAID, through its work with host-country governments and community groups has made great strides in the fight against HIV/AIDS through training of over 180,000 counselors and educators and promotion of behavior change for over 22 million men, women, and youth, especially vulnerable to the risk of HIV infection. USAID support for basic education has increased enrollment rates and reduced gender gaps in targeted countries. All these accomplishments have contributed to a 20% reduction in under-five mortality, which has declined from 145 per 1,000 live births in 1985 to about 116 per 1,000 today in all developing countries (excluding China).

Building on these efforts, some of the highlights for FY99 include:

- **Polio.** In what was the largest public health activity in history, over 470 million children were immunized against polio during National Immunization Days—130 million alone in a single day in India. Since inception of the polio eradication effort, annual reported cases have dropped by 85%. Strong global collaboration and support must be maintained, however, to interrupt polio transmission by the end of 2000 or shortly thereafter, and to achieve the goal of global certification of a polio-free world by 2005.
- **Immunizations.** Despite continued progress in polio eradication, many national immunization programs failed to demonstrate progress in the 1990s. In fact, some African countries have experienced declining vaccination coverage rates due to decreased attention and investments by host countries and donors. To address this problem, USAID joined WHO, UNICEF, the private sector, and others in the Global Alliance for Vaccines and Immunizations (GAVI). The aim of GAVI is to strengthen national immunization programs and to introduce the newer vaccines into developing countries. To support these same objectives, USAID developed an initiative in 1999 to boost immunization programs in 15 USAID-assisted countries.
- **Vitamin A.** In 1998–9, USAID-assisted 17 countries to add Vitamin A capsule distribution to National Immunization Days. Six of these countries achieved better than 50% coverage of children. Through USAID's efforts, fortification became a significant source of Vitamin A for vulnerable populations in Central America and, for the first time in Africa, in Zambia.

- **Controlling Diarrheal Diseases (CDD).** USAID improved and expanded diarrheal disease case management at the clinic and community levels. These efforts have contributed to steady and significant increases in the use of life-saving oral rehydration therapy (ORT) to treat childhood diarrhea in USAID-assisted countries. For example, use of ORT increased from about 60% in 1990 to over 85% today in USAID's ANE countries. In addition, community-level interventions to improve hygiene behaviors and sanitation have had an impact on the incidence of diarrhea.
- **Combating Acute Respiratory Infections (ARI).** USAID provided technical leadership and other support to improve and expand clinic- and community-based treatment of ARI in children. In the past five years, the number of children reached by effective ARI treatment steadily increased in USAID-assisted countries (e.g., from about 50% in 1990 to about 60% today in USAID's Africa region).
- **Breastfeeding.** USAID supports increases in initiation, exclusivity and duration of breastfeeding in all regions. In the 1990's exclusive breastfeeding increased in nine targeted countries from about 30 to 40%, contributing to reductions in infant and child morbidity and mortality.
- **Integrated Management of Childhood Illness (IMCI).** To improve the quality of child health care and to expand the coverage of child survival interventions, USAID assisted WHO, UNICEF, and other partners in developing and initiating the Integrated Management of Childhood Illness approach. Developed in 1996, the strategy is now being implemented in 63 countries, 23 with USAID support. The approach will allow countries to expand CDD, ARI, malaria, and immunizations in an integrated, cost-effective manner.
- **Malaria.** Improving management and access to appropriate antiparasitic drugs is pivotal in reducing mortality due to malaria. In remote health centers in western Kenya, the establishment of a revolving drug fund increased from 20 to 80% the proportion of health centers with access to appropriate drugs for malaria. USAID-supported research demonstrated that appropriate use of insecticide-treated nets and other materials could contribute to a 20% reduction in overall mortality. In 1999, USAID partnered with the commercial private sector to bring affordable treated nets to families and households in endemic areas of Africa.
- **Tuberculosis.** As one of the newest program elements in its health sector, USAID has begun tuberculosis (TB) programs in 12 countries and will expand the program significantly in 2000 and 2001. USAID is also a founding member of the WHO-led STOP TB initiative, a global effort to coordinate and expand the international response to TB.
- **HIV/AIDS.** The HIV/AIDS pandemic is reaching crisis proportions. In Africa, this epidemic jeopardizes 40 years of economic and health development and has begun to affect under-five mortality rates and major economic indicators. USAID and other donors are now reinforcing their support of primary prevention and their efforts to mitigate the impact of this pandemic on those most affected. In 1999, USAID's intensified support was reflected in the expansion of condom social marketing programs. Through these programs, USAID contributed to an over 20% increase in

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condoms distributed in key countries, thereby preventing transmission of HIV/AIDS and increasing condom use by individuals in high-risk situations.

- **Maternal and Neonatal Health.** USAID continues to support the introduction of life-saving maternal and neonatal health interventions into community and maternity services. As a result, USAID has contributed to increasing rates of births attended by skilled health personnel (a proxy indicator for maternal mortality) in the Asia and Near East (ANE) and Latin America and Caribbean (LAC) regions despite no progress in Africa.
- **Basic Education.** Attainment of education, particularly for girls and women, is strongly associated with improvements in maternal mortality and child survival. USAID support for basic education helped ten African countries increase their enrollment rates. USAID's efforts also helped reduce the gap between boys' and girls' enrollments in targeted ANE countries from 30% in the mid-1980s to 21% today.

## *Partnerships*

Just as the United States is the largest bilateral health donor in the world, USAID is an acknowledged leader in the global child survival and disease control effort. Through its global and regional programs and country-level presence, USAID plays a major role in shaping the international agenda for children's health, HIV/AIDS, maternal health, and infectious disease issues and in delivering critical technical and program support. But the issues are too large and too complex to be addressed by any single donor or government.

USAID's child survival and disease program therefore collaborates with a wide range of partners

drawn from both the public and private sectors. Partners include host-country governments—especially ministries of health, the World Health Organization (WHO), the World Bank, the Centers for Disease Control and Prevention (CDC), other U.S. government agencies, other bilateral donors, private voluntary organizations (PVOs), nongovernmental organizations (NGOs), and Universities. As part of this international partnership, Congress allocated \$105 million in FY99 from the CSD fund to the United Nations International Children's Fund (UNICEF). In addition to its annual budget support, USAID granted \$17 million to UNICEF in FY99 for specific collaborative activities in maternal and child health, including polio eradication.

Over the past ten years, USAID has also worked diligently to deepen private sector involvement in its child survival and disease control efforts. The Agency supports and coordinates the research efforts of universities and private companies engaged in the development of new technologies that improve child health in the developing world. It supports U.S.-based PVOs that deliver services to children and families not reached by other agencies as well as local NGOs that help mobilize community and family involvement. It encourages private companies worldwide both to provide life-saving goods and services (such as oral rehydration salts and insecticide-treated mosquito nets) to poor children and to promote the adoption of healthy behaviors (such as hand washing and breastfeeding). It has firmly enlisted the U.S. food industry in the promotion and delivery of Vitamin A supplements and fortification.

USAID also encouraged U.S. pharmaceutical companies to provide essential medicines and vaccines to children in the developing world. In response, Merck and Company has donated enough mectizan to treat river blindness annually in 25 million people in Africa and Latin America. Roche has

donated nearly 30 million Vitamin A capsules for children in need; the capsules are distributed through more than 1,000 projects in 70 countries. Becton, Dickinson & Company, now fully engaged in producing single-use injectors, has donated \$4 million to UNICEF to promote safe injection practices. DuPont has provided the fine-mesh filter material required to cleanse water contaminated with the Guinea worm. Under the U.S./Japan Common Agenda program of collaboration, joint programs have been funded to support HIV/AIDS prevention and control, polio eradication and other immunization programs, micronutrients and other nutrition initiatives, and maternal health. All of these efforts, undertaken in the past ten years, exemplify a new era of private and public sector cooperation.

### *Saving Lives—USAID's Strategy*

USAID's child survival and disease strategy is organized around five major goals:

- To improve infant and child health and nutrition and reduce infant and child mortality.
- To reduce deaths, nutrition insecurity, and other adverse outcomes to women as a result of pregnancy and childbirth.
- To reduce HIV/AIDS transmission and the impact of the HIV/AIDS pandemic in developing countries.
- To reduce the threat of infectious diseases of major public health importance.
- To promote full primary education.

Of the 85 USAID operating units (including country and regional offices), 57 have set forth objectives that address child health and nutrition, maternal health, HIV/AIDS prevention, and infectious disease interventions. Many USAID missions' strategic objectives are compound objectives that integrate child health and nutrition, and maternal health. The

aim of such an approach is to increase effectiveness and efficiency by integrating health services that complement one another to produce the greatest improvements in health while increasing the number of people served. When mothers bring their children to a clinic to be immunized, for example, they can receive their prenatal iron supplements or other health education messages. Integration, it should be noted, is more than programmatic and includes collaboration across government and private sectors in service provision.

## I. Child Survival and Maternal Health

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### A. Child Survival—Primary Interventions to Improve Child Health and Nutrition and Reduce Under-Five Mortality

#### *Background*

As the largest bilateral donor in health, USAID is proud of its contribution in saving the lives of children. Since 1985, with the support of Congress, USAID has spent an estimated \$3 billion on child survival activities. Major programs include:

- immunizations, including polio eradication;
- diarrheal disease control;
- treatment and prevention of acute respiratory infections;
- integrated management of childhood illness;
- combating micronutrient deficiency and malnutrition, and promoting breastfeeding; and
- addressing the needs of displaced children and orphans.

#### *Overall Progress in Reducing Infant and Under-Five Mortality*

The most internationally recognized and best measures of child health are infant and under-five mortality rates. The figures below present trends in these rates in USAID-assisted countries in which health and nutrition programs operate and for which at least two data points are available from nationwide Demographic and Health Surveys.



### Infant Mortality Rate in Selected USAID-Assisted Countries Africa Region

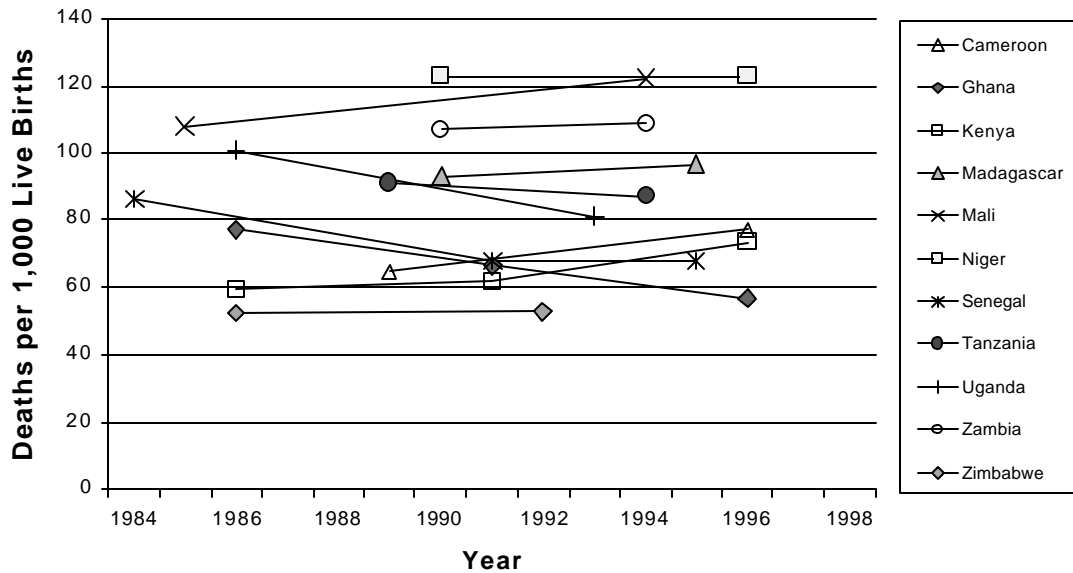


Figure 1

### Infant Mortality Rate in Selected USAID-Assisted Countries Asia / Near East Region

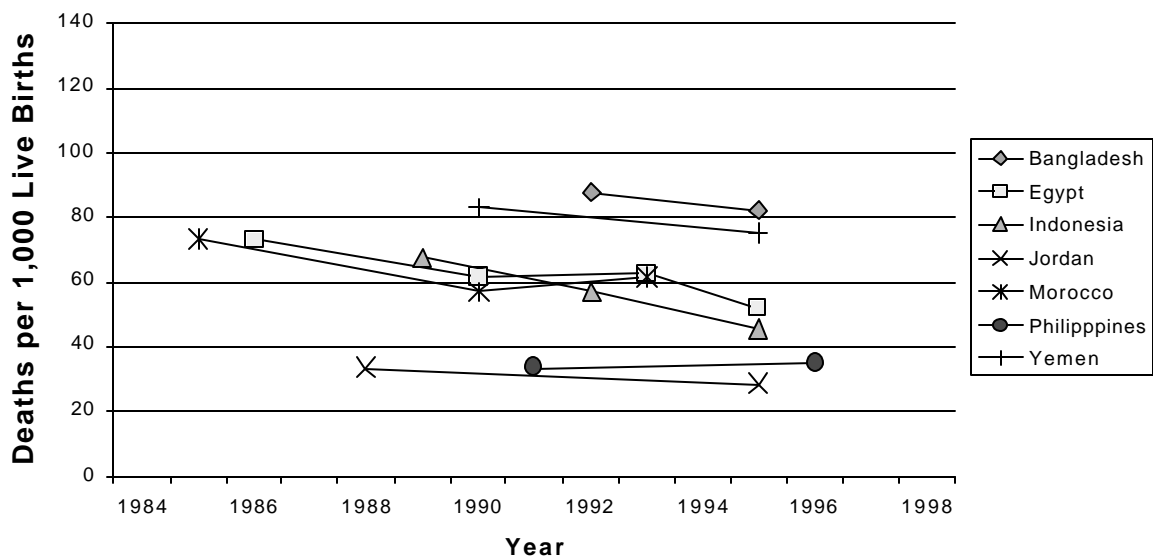


Figure 2

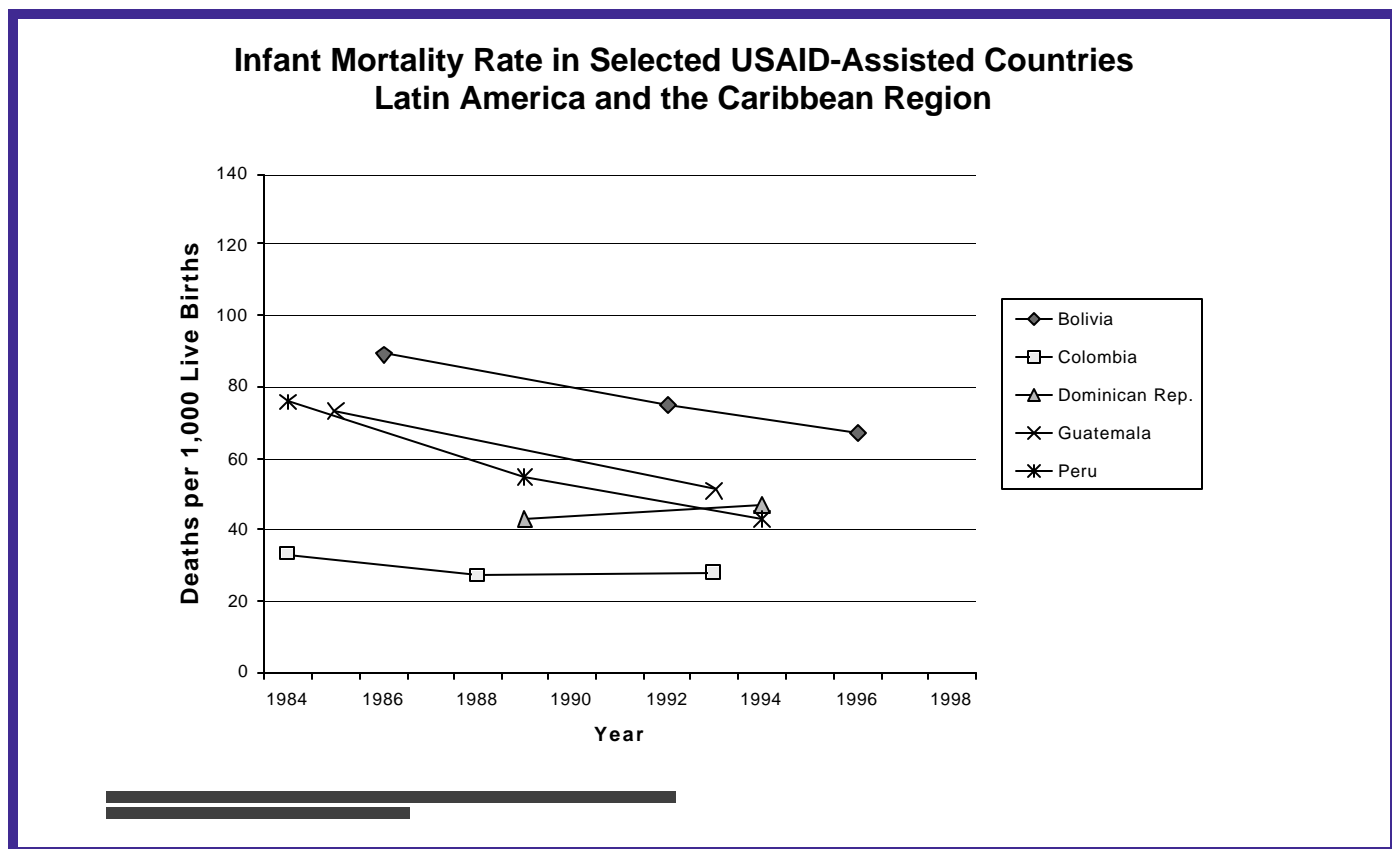


Figure 3

**Infant Mortality.** (Figures 1, 2, and 3) In the Africa region infant mortality is stagnating or, in some cases, rising. The ANE region has experienced a steady overall decline although some countries are projected to remain above 70/1,000 live births. Progress is similar in the LAC region, where almost all countries show a downward trend.

### Under-Five Mortality Rates in Selected USAID-Assisted Countries Africa Region

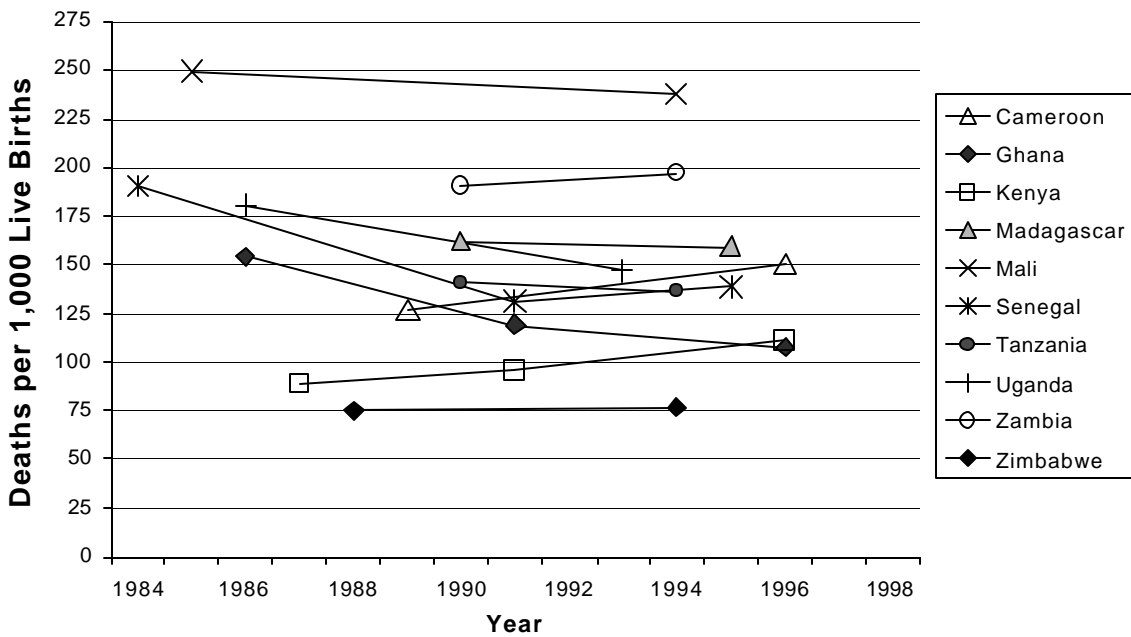


Figure 4

### Under-Five Mortality Rates in Selected USAID-Assisted Countries Asia / Near East Region

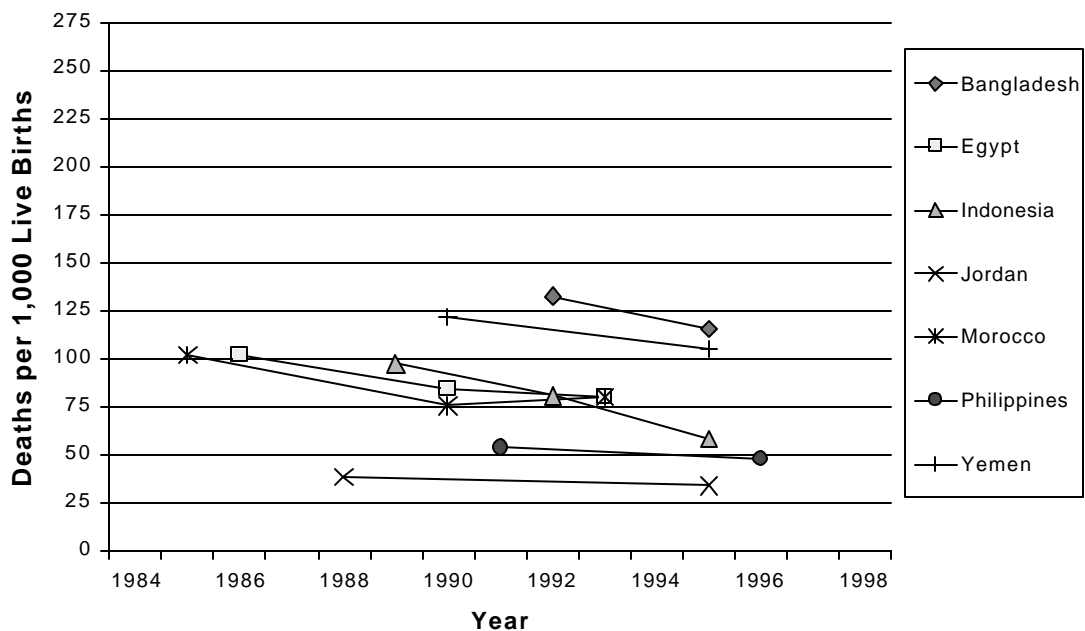


Figure 5

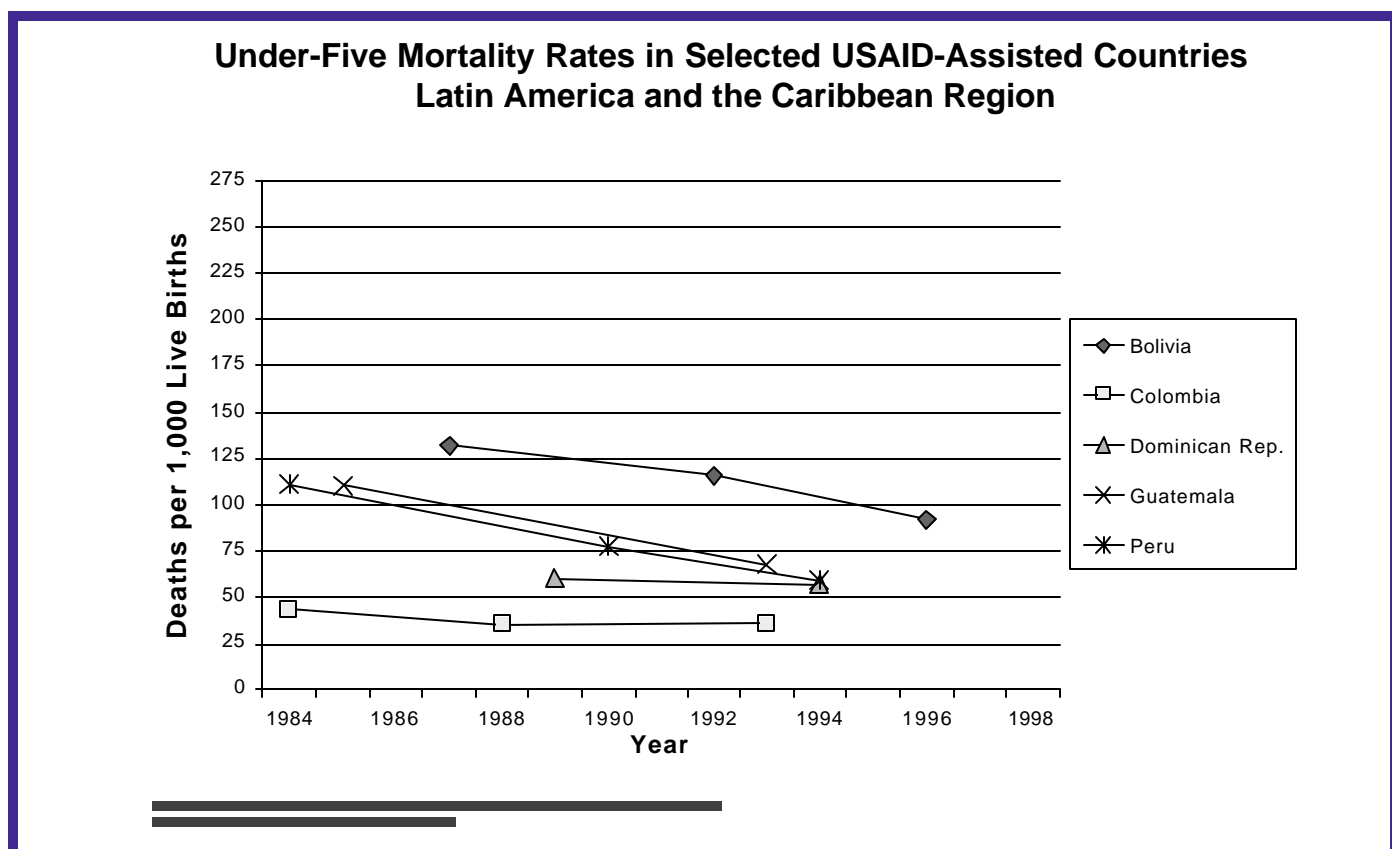


Figure 6

**Under-Five Mortality.** (Figures 4, 5, and 6) According to the latest available Demographic and Health Survey (DHS) data, the ANE and LAC regions have shown slow but steady progress in reducing under-five mortality. However, the general trends for under-five mortality in Africa are similar to those for infant mortality, with many countries' rates stagnating or, in several cases, rising. Despite the specter of HIV, analyses funded by USAID show that for now these increases in mortality are mostly in the first year of life, when a decline in basic health services is more likely than HIV/AIDS to be the cause. An example of the decline in services is seen in East and West Africa, where vaccination coverage rates have declined or stagnated.

The trend lines for both the ANE and LAC regions show decreases. However, despite steady progress in the LAC region, several countries evidence a vast difference in mortality between the majority population and indigenous groups.

## Progress and Key Results in Primary Interventions

### Immunization

Vaccines are among the most cost-effective interventions for preventing disease. In areas where vaccine coverage is high, immunization has greatly diminished the burden of disease from such traditional public health threats as measles, diphtheria and pertussis. WHO estimates that, by 1990, almost 130 million children were being immunized<sup>1</sup> each year before they reached the age of one, resulting in the prevention of at least 3 million deaths each year and at least 750,000 fewer children blinded, crippled, mentally retarded, or otherwise disabled (WHO, 1998).

In the 1990s, many national immunization programs failed to achieve and sustain high vaccination rates. Roughly half of Africa's children grow up unprotected against vaccine-preventable diseases and, while other regions have made better progress, most countries fall short of 80% vaccination coverage. Why? In large part, developing countries have yet to invest in primary health care and, specifically, in preventive services such as immunization. The result is stagnation and, in some cases, a reduction in the capacity of health care services to deliver care to hard-to-reach segments of the population and to the poor.

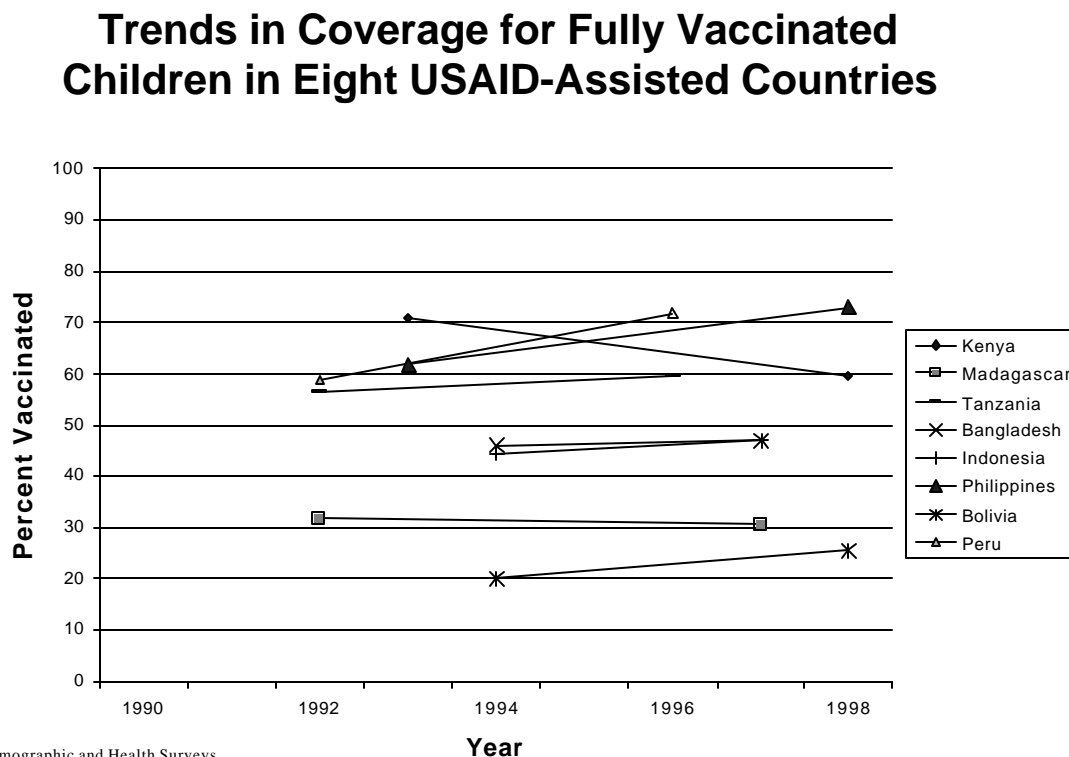


Figure 7

**Drive to immunize children stagnates.** Figure 7 above charts vaccination rates in eight USAID-assisted countries in which two or more Demographic and Health Surveys were available.

<sup>1</sup> Fully vaccinated in most countries is defined as one dose of BCG vaccine for tuberculosis, three doses each of diphtheria, pertussis, and tetanus vaccine and polio vaccine, and one dose of measles vaccine—all by one year of age.

# USAID Child Survival and Disease Programs Fund Progress Report

## *USAID's Role*

To reverse the trends of the 1990s, USAID concentrates its programming on elements of immunization systems that are particularly weak. These elements include increasing demand for immunization; training health workers in proper vaccine logistics and safe injection practices; developing new methods for vaccine financing; developing of policy tools, including disease burden studies; supporting new technologies; and improving the management and planning skills of national immunization program managers. More specifically, USAID directs its resources to:

**Strengthen planning capacity** by improving the capabilities of national, district and local immunization program planners to plan, manage, and finance immunization services. USAID helps by

- conducting international reviews and assessments of national programs; and
- assessing the cost-effectiveness of immunization programs.

**Build partnerships** among the public health system, donors, private entities, and the community to support routine immunization programs. USAID helps by

- supporting country and regional Interagency Coordinating Committees; and
- developing productive working relationships with the vaccine industry and private foundations such as the Gates Children's Vaccine Program.

**Improve the quality of immunization services delivered** by introducing new technology, facilitating the flow of information, and training participants at all levels to make certain that children receive

injections that are safe, in the correct dosage, and administered at the appropriate age. USAID helps by

- assessing training needs and creating training plans for personnel at all levels of the health care system to improve the procurement, management, and delivery of vaccines and supplies;
- improving disease surveillance;
- adding Vitamin A supplements to routine immunization schedules; and
- introducing OneShot disposable syringes and other new technologies to increase injection safety.

**Increase and sustain the demand for immunization services** through social marketing, education, and advocacy at all levels to inform both policy makers and the public about the benefits of childhood immunizations. USAID helps by

- sponsoring disease burden studies to show policymakers costs and benefits of routine vaccination; and
- introducing modern communications techniques in support of routine immunization.

## *Profiles of Successful Programs*

**Strengthened immunization delivery systems.** In Ghana, USAID supported the nationwide expansion of the cold chain (the process of transporting and storing vaccines within a safe temperature range from the place of manufacture to the point of administration), social mobilization, and the design of health sector reforms and strategies to shift resources to district health authorities. In response to these inputs, the 1998–99 Demographic and Health Survey documented a slow but steady increase in immunization coverage for fully immunized children from 43% in 1993 to 51% in 1999.

**Improved immunization coverage.** In districts involved in USAID's program in Madagascar, vaccination coverage increased from 57% in 1996 to 78% in 1998. Similarly, with USAID assistance, Eritrea met its 1998 target of 60% coverage for fully immunized children, and Zambia exceeded its target of 70% with an actual coverage figure of 78% for fully immunized children.

**Reaching the hard-to-reach populations.** In 1994, Haiti had one of the lowest immunization coverage rates in the Western Hemisphere (30%). Through a package of maternal and child health services supported by USAID, including training of health workers, improved cold chain and vaccine logistics, and establishment and better management of community health posts in remote areas, Haiti recorded a significant increase in immunization coverage. The 1998 impact survey indicated that 61% of children under the age of two years were fully immunized in USAID-assisted areas. In 1999, the program was expanded to other hard-to-reach areas; similar results are being obtained.

**Accelerated measles control.** The level of political commitment spurred by polio eradication in the region stimulated Ministers of Health in the LAC region to adopt unanimously a resolution in 1994 calling for the elimination of measles transmission by 2000. That resolution became a primary objective of the LAC Regional Vaccine Initiative and was supported by USAID country mission programs. After a major measles outbreak in 1997, only 2,700 cases were confirmed in the Western Hemisphere in the first 47 weeks of 1999.

**Vaccine procurement manual.** In 1999, based on work in the Europe and Eurasia (E&E) region, USAID, in collaboration with WHO and with input from the Food and Drug Administration, U.S. vaccine producers, and the U.S. Department of Commerce, designed a manual to help developing countries better understand the international vaccine marketplace and how to conduct international procurements of high-quality vaccines and at the best possible price. The manual, published as a WHO document, has been used in three countries to train public sector officials in the procurement process and will be the standard manual for vaccine procurement worldwide.

**Vaccine vial monitors.** A simple technology developed by a USAID-supported project, the vaccine vial monitor (VVM) is a way to monitor continuously whether a vaccine has been exposed to heat for a period of time that would threaten its potency. The VVM reduces vaccine wastage and saves money. Through extensive work with UNICEF, international donors and partners reached agreement to require all vaccines purchased by UNICEF after January 1, 2000 to carry a VVM on every vial. Those countries using the VVM have already noted a reduction in the share of discarded vaccines. In Tanzania, the proportion of disposed vaccine fell from 49% in 1995 to 4% in 1999; in Kenya, it fell from 30% in 1996 to 4% in 1999.

**Injection safety.** Reuse of syringes is a serious problem in many countries thus contributing to the spread of infectious diseases. USAID, in collaboration with the syringe industry, has developed the Soloshot syringe that prevents reuse through the first use's automatic disabling of the syringe. USAID has also collaborated with UNICEF and Becton, Dickinson, and Company to use UniJect, a prefilled single-use syringe, to reinvigorate the global neonatal tetanus elimination effort.

### *USAID's Global Leadership*

USAID has been a leader in the two-decade-long international effort to immunize the world's children. Most recently, USAID joined WHO, UNICEF, the vaccine industry, the World Bank, and various Foundations as a member of the Global Alliance for Vaccines and Immunization (GAVI). GAVI's aim is to enhance national immunization programs and to help introduce the newer vaccines in countries that need assistance. USAID is also a founding member of the Safe Injection Global Network (SIGN), which is developing a global strategy for improving the safety of injections, thereby preventing the spread of diseases such as HIV/AIDS and Hepatitis B. To facilitate involvement in these global efforts, USAID has developed the Boost Immunization Services Action Plan (BISAP) that will support programs to strengthen immunization services in 15 USAID-assisted countries where progress is lagging.

## Polio Eradication Initiative

A decade ago, there were an estimated 350,000 cases of polio. The disease was found in more than 130 countries. In 1996, an expanded effort to eradicate polio, the Global Polio Eradication Initiative, was launched. The initiative forged a partnership of unprecedented size and strength dedicated to the goal of interrupting poliovirus transmission by 2000 in a manner that improves immunization and disease control programs and achieves global certification of a polio-free world by 2005. Once polio is eradicated, global savings can equal more than \$1.5 billion each year.

Thus far, as shown in Figure 8, the result is an 85% reduction of reported cases in the past ten years. In 1998, fewer than 6,000 polio cases were

documented. Today, polio remains endemic in only 30 countries, concentrated in sub-Saharan Africa and the Indian subcontinent. USAID, together with its partner organizations WHO, UNICEF, CDC, Rotary International, NGOs, Voice of America, the Peace Corps, and USAID technical projects, share a common goal and strategy: to reach every child with oral polio vaccine; to identify and follow up every case of acute flaccid paralysis (AFP) (a signal condition for polio); and to develop a fully accredited global laboratory network capable of documenting the absence of disease.

Despite impressive progress to date, the final stages of eradication are the most challenging. Total eradication means finding all pockets of unvaccinated

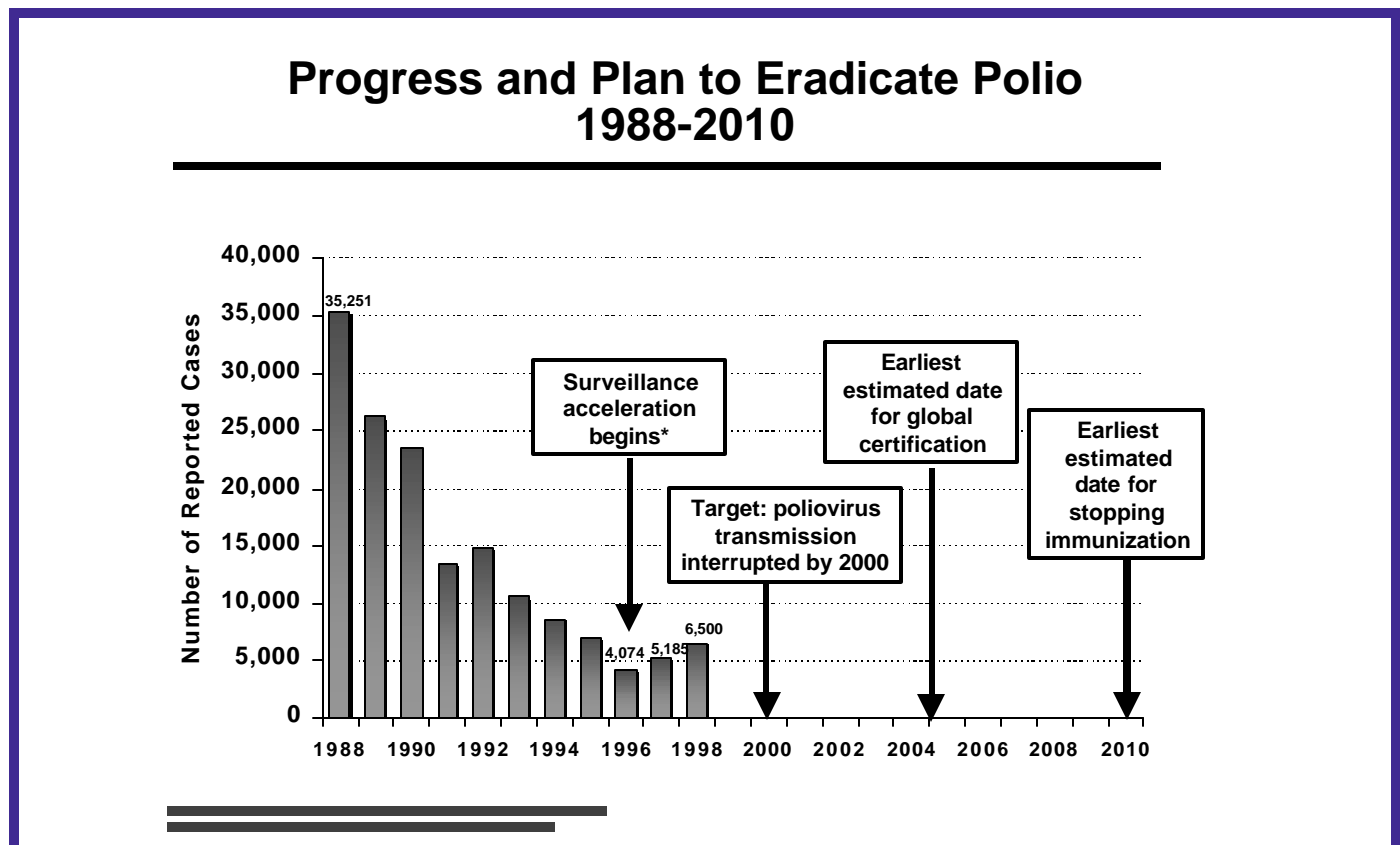


Figure 8

# USAID Child Survival and Disease Programs Fund Progress Report

children and providing multiple doses of vaccine, establishing effective surveillance in remote areas and in countries in conflict, and maintaining political and financial commitment until all regions are certified polio-free.

## *USAID's Role*

USAID provides technical leadership and financial support for essential activities related to polio eradication, including conducting high-quality National Immunization Days, the establishment of effective Acute Flaccid Paralysis (AFP) Surveillance, and the strengthening of the Global Polio Laboratory Network.

Primarily through WHO and UNICEF, USAID supports the planning, implementation, monitoring, and evaluation of National Immunization Days. Support covers strengthening the cold chain, developing and implementing targeted social mobilization activities, and fostering interagency coordination at all levels. Through WHO, USAID supports facility-based AFP surveillance and the development of the global laboratory network. In India, Bangladesh, Nepal and several African countries, USAID funds surveillance medical officers who provide needed data that indicate where the virus remains. USAID supports the accreditation of laboratories and provides most of the reagents and cell lines needed to run virologic testing.

**Providing leadership in the area of communication and social mobilization.** USAID funds selected technical projects to fill program gaps that WHO and UNICEF are unable to address.

- The Voice of America (VOA) has provided over 1,500 polio-specific reports in over 19 local languages in support of the Polio Eradication Initiative; broadcasts and scripts

are available free of charge to local affiliates, thus increasing the cost-effectiveness of the investment. Nkembe Mutumbo of the Atlanta Hawks professional basketball team, a native of the Democratic Republic of Congo, recorded public service announcements for VOA that were broadcast frequently. Mutombo's involvement contributed to the high level of cooperation and participation in this war-torn country; in fact, over 85% of eligible children were immunized in 1999.

- USAID funds communications activities through WHO/Geneva, the WHO/Africa regional office, and the WHO/South East Asia Regional office. Communications helps ensure that host-country political commitment is maintained through certification; that information is provided to mothers and caretakers about scheduled National Immunization Days; that information preempts misinformation, myths, and rumors about the vaccine thus convincing parents that immunizations are needed; that health workers are motivated to perform high-quality work; that the public is informed about the need to report AFP cases and to advocate for the initiative until global certification is achieved.

**Making every child count.** In many countries, 10 to 15% of children are not vaccinated either as part of routine immunizations or during National Immunization Days. Understanding who these children are and why they are missed is extremely important. These are the susceptible children who may harbor the virus and allow its continuing transmission. Studies being conducted by USAID in West and Central Africa identify which children are missed and why.

**Reaching the unreached.** The CORE group, a consortium of 35 U.S.-based PVOs with an extensive network of organizations experienced in child survival, is working with partners in priority countries to improve the planning and implementation of NIDs and house-to-house immunizations; to enhance AFP case detection and reporting; and to improve the quality of polio activities in communities where health services are limited or nonexistent, thus enhancing the activities of WHO and UNICEF's work through public sector facilities.

Using polio resources wisely. Countries are facing multi-million dollar decisions about whether to conduct nationwide National Immunization Days or to focus on smaller geographic areas. Countries must also determine whether they should use fixed-site, mobile teams, or house-to-house approaches to deliver the vaccine. Each choice has cost and disease control implications. Given that the global program will continue to operate under a budget shortfall of \$400 million projected through 2005, it must use its resources judiciously. With the help of WHO, USAID is analyzing financial and epidemiological data from several countries where trend data are available to help determine the most cost-effective mix of supplemental immunization strategies.

**Building Partnerships.** The public health system, donors, private entities, and institutions within the community are forming partnerships to support polio eradication and, increasingly, immunization programs.

- Every country has established an Interagency Coordinating Committee (ICCs) for approving technical strategies, solving problems, and budgeting resources. ICCs are also functioning at the regional and international level. USAID is an active participant on these committees.

### *Profiles of Successful Programs*

- In 1998, over 470 million children were immunized during NIDs—130 million in a single day in India—the largest public health activity in history.
- Surveillance improvements are particularly impressive in India, Nepal, and Nigeria. In India and Nepal, improvements occurred immediately after AFP surveillance medical officers were deployed in 1997 to 1998. New regional surveillance officers in Nigeria were responsible for a dramatic increase in surveillance.
- Over 100 laboratories worldwide have been accredited or provisionally accredited as part of the polio eradication initiative.
- A cease-fire was negotiated in the Democratic Republic of Congo in August 1999 to enable the first National Immunization Day to take place. Over 85% of eligible children were immunized.
- An extensive house-to-house immunization effort took place in 15 states in Nigeria in May 1999. USAID, leading the country's social mobilization task force and the primary organizer of NGOs, played a vital role in reaching over a million children that had been missed in previous National Immunization Days.
- In 48 countries, donors (including USAID) have helped include Vitamin A in National Immunization Days either nationally or targeted at high-risk groups.

## *USAID's Global Leadership*

USAID was a major supporter of the eradication of polio in the Americas and was the largest external donor from 1986 to 1994. In 1994, the Americas were certified polio-free and remain so to this day, due to continued high levels of vaccination coverage and surveillance. In 1996, USAID joined the global initiative and has contributed technical leadership in the areas of communication and social mobilization; the development of strategies to reach the unreached; and the mobilization of an extensive network of NGOs and Peace Corps volunteers to participate in polio eradication activities. USAID is the lead agency for health under the U.S.-Japan Common Agenda, which identified polio eradication as one of its major goals.

USAID will continue to advocate and promote global polio eradication and certification during the most difficult and intensive final years of the eradication effort.

## Diarrheal Disease Control

Diarrheal diseases are one of the major causes of death of infants and children in the developing world. Before inception of USAID's child survival program, children often died from diarrheal illnesses simply by going into shock from loss of fluids (dehydration). Children suffering from diarrhea induced dehydration were treated by administering intravenous fluids. However, this was too complicated and too expensive to help the millions of children in poor countries who experience six, eight, or more episodes of diarrhea each year during the first years of life.

In the 1960s, USAID supported basic and applied research in India and Bangladesh that led to the development of oral rehydration salts (ORS), a simple mixture of glucose with sodium and other elements that are lost in diarrheal dehydration. This simple life-saving remedy replaces lost liquids and essential minerals and saves children's lives. In countries where access to health services was limited, public health authorities and scientists collaborated to develop a set of "recommended home fluids" that could be used to rehydrate children at home if ORS

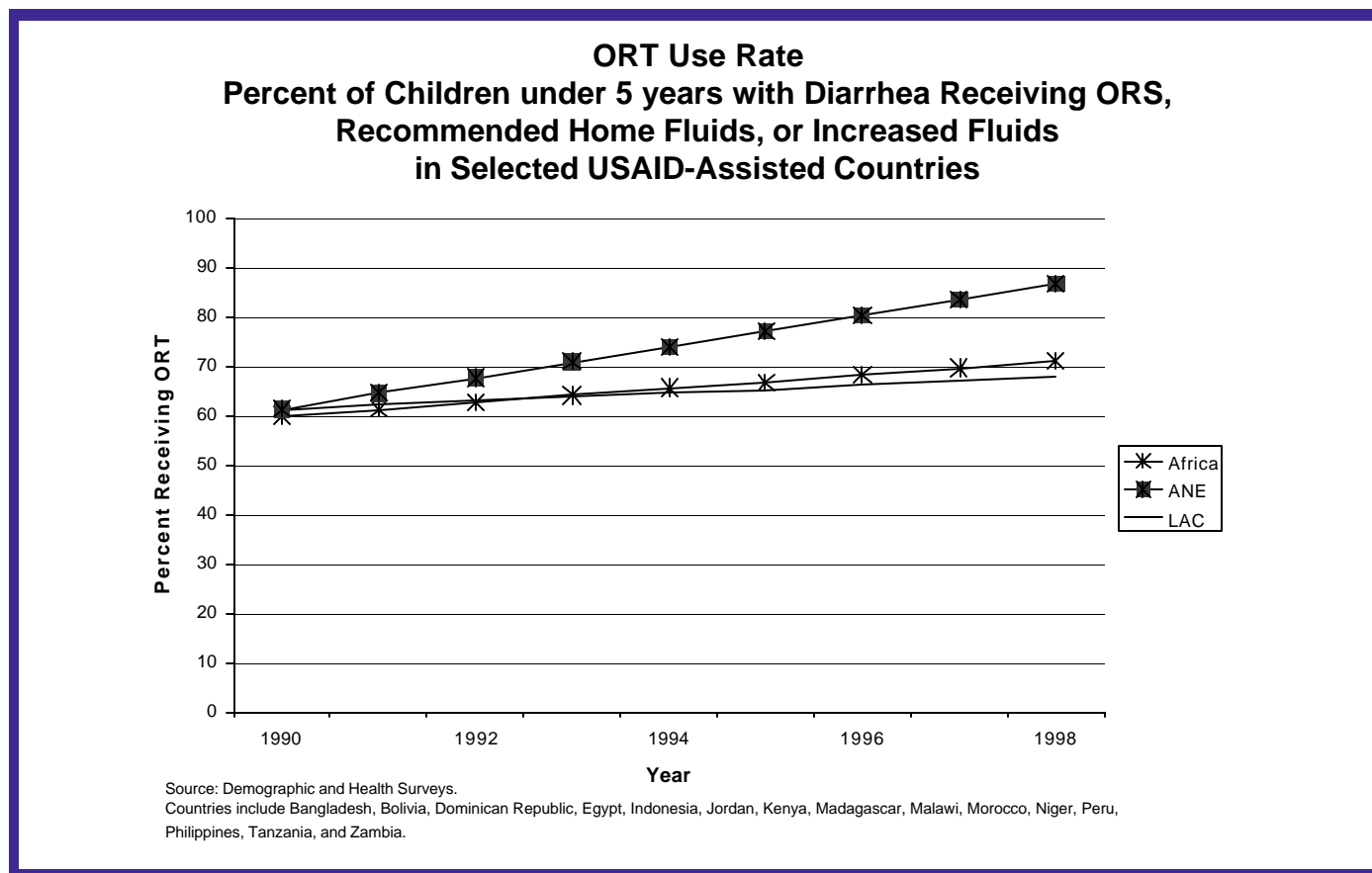


Figure 9

**Steady and significant progress.** ORT is now widely accepted as an effective treatment for diarrheal disease. But while roughly 60–70% of children receive ORT when needed, as shown in Figure 9, that percent is far lower in certain countries, such as Bolivia, and in selected under-served areas of many countries.

was not available. The combination of ORS or the recommended home fluid with breastfeeding in infants, other fluids, and appropriate foods for older children is known as oral rehydration therapy (ORT).

In further studying the treatment of diarrheal disease, scientists have concluded that increasing the amount of almost any liquids given to a child with diarrhea, especially when administered with food, could prevent dehydration in many instances. This strategy of increased fluids gives families the power to keep their children from experiencing life-threatening dehydration, reduces the burden on health services, and can contribute to the reduction in deaths from diarrhea in developing countries. ORS is still the most effective remedy in cases of diarrhea and is essential in to treat all forms of dehydration. The effectiveness of the combined focus on home care and health services on reducing the impact of diarrheal disease has become an important lesson for all aspects of child survival.

**Prevention.** ORT is a tremendously powerful tool for saving lives but it does not prevent diarrhea from occurring again and again. Prevention is possible through breastfeeding and other environmental/behavioral approaches. The last decade has seen a dramatic increase in the understanding of the effectiveness of hygiene, sanitation, and water supply interventions, and their interactions both in preventing diarrhea and maximizing health impact. Studies have demonstrated that behaviors such as hand-washing and improved sanitation can reduce diarrhea incidence by as much as 30%. Appropriate breastfeeding is known to reduce diarrhea by 50% to 90% in young infants.

USAID promotes the use of ORT and programs promoting the prevention of diarrhea all over the world. As a result, as Figure 9 shows, ORT is now administered in roughly two-thirds of all cases of

diarrhea in children. It is affordable and sustainable at the community level and as effective a life-saving treatment as intravenous fluids, while costing one tenth as much. For this reason, ORT is increasingly recognized as useful for the developed world as well. Widespread use of ORT helped prevent adult and child deaths during the 1998 floods in Bangladesh and the aftermath of Hurricane Mitch in Central America.

### *USAID's Role*

USAID continues to work to institutionalize ORT in health facilities and homes as the way to prevent child death from dehydration. USAID also plays a leading role in supporting the promotion of social marketing of ORS through the commercial sector.

In addition, USAID is addressing the issue of persistent diarrhea, defined as illness that goes on for weeks and leads to progressive deterioration of the child not from dehydration, but rather from malnutrition. Persistent diarrhea is now responsible for an estimated one-third of all diarrheal deaths. USAID has supported WHO and health researchers in developing treatment for this difficult condition. Moreover, recognizing that persistent diarrhea is most common among infants who are not exclusively breastfed and already malnourished, USAID and its partners now emphasize a preventive approach to reduce the incidence of persistent diarrhea.

Environmental health and hygiene education interventions to prevent diarrrheal disease are also important elements of USAID's child survival strategy. These include improvements in the quantity and quality of local water supplies, sanitation improvements, and behavior change to ensure appropriate use of such infrastructure. USAID's innovations have emphasized actions at the community and household levels as well as fostering intersectoral collaboration, with an emphasis on sustainability.

USAID also provides leadership in developing new behavior change tools to prevent diarrheal disease at the family and community level. USAID is taking a lead role in expanding community approaches for delivering ORT through community agents, community IMCI activities, and by means of information and education programs.

In addition to preventive behaviors, vaccines may also provide protection against diarrheal diseases. USAID is supporting research on new vaccines, including a safe rotavirus vaccine, that in the future may prevent some of the major causes of severe diarrhea in young children.

### *Profiles of Successful Programs*

**Social marketing.** A USAID-supported social marketing program in Niger helped increase national ORT use from 23.9 percent in 1992 to 64.4 percent in 1998.

In Guinea, USAID facilitated a policy dialogue to change Ministry of Health regulations that impeded private sector access to ORS including restrictions on price increases and sales points. Recent results from the Demographic and Health Survey indicate a 10% increase in the use of ORS for diarrhea in children under five.

In 1998, the USAID-supported Social Marketing Company sold a record 62 million sachets of ORS in Bangladesh, a 26% increase over 1997 sales. Five million sold during the September to October Bangladesh flood, helping keep mortality levels associated with this disaster at extremely low levels.

**Improving case management of childhood diarrhea.** In FY 98 to 99, USAID/Bangladesh supported the development of child health service delivery standards, a training curriculum, and new

communication materials. These actions along with and upgraded clinic capability, resulted in a tenfold increase in the number of childhood diarrhea cases treated at NGO health (3,000 per month in 1996 compared with 44,000 in 1999).

In Nepal, USAID supports improved case management of diarrhea in all 75 districts. Improved access and quality of services is stressed, with Female Community Health Volunteers (FCHV) being trained to provide effective care at the community level. As a result of the program, the proportion of FCHVs who know all three home rules of managing diarrhea rose from a baseline level of 21% in 1994 to 78% in 1998.

**Increasing participation of the private sector.** A public-private partnership has made ORS available in all Bolivian pharmacies. In addition, 19% of pharmacies now recommend ORS without prompting (up from 5% in 1996), and 49% make it available when asked for a less costly alternative to antidiarrheal drugs. The private sector now fully sustains the ORS distribution program.

**Environmental health interventions to prevent diarrhea.** A USAID-funded project in the Santa Cruz area of Bolivia illustrates the potential of environmental health interventions to reduce childhood diarrheal disease morbidity. In one year, community-initiated interventions—hygiene promotion combined with latrines, water storage tanks, and improved bathing facilities for children—produced significant improvements in household hygiene behaviors and reduced diarrheal disease prevalence by 49%.

## Acute Respiratory Infections

Acute respiratory infections (ARI), especially pneumonias, are the leading cause of under-five mortality in developing countries and are responsible for millions of childhood deaths every year. USAID was a major supporter of field-based research that provided the foundation for the current global strategy to reduce ARI deaths. The research showed that in the absence of doctors, stethoscopes, or x-rays, health workers in developing world communities and clinics can diagnose pneumonia by counting respirations and identifying other symptoms of severe respiratory infection. It also demonstrated that simple treatment with oral antibiotics, at a cost of 25 cents per dose, can be delivered safely at the community level and successfully resolve most infant and childhood pneumonias.

This approach has become the basis for global efforts to control ARI. In the past five years, as Figure 10 below indicates, the number of children reached by effective ARI treatment has steadily increased. Today, with USAID support and technical leadership, ARI treatment has been incorporated into child survival programs in over 70 countries. Despite substantial progress, however, almost half of ARI cases still do not receive appropriate care because families either do not recognize the seriousness of the condition or lack access to a health facility that provides the needed treatment.

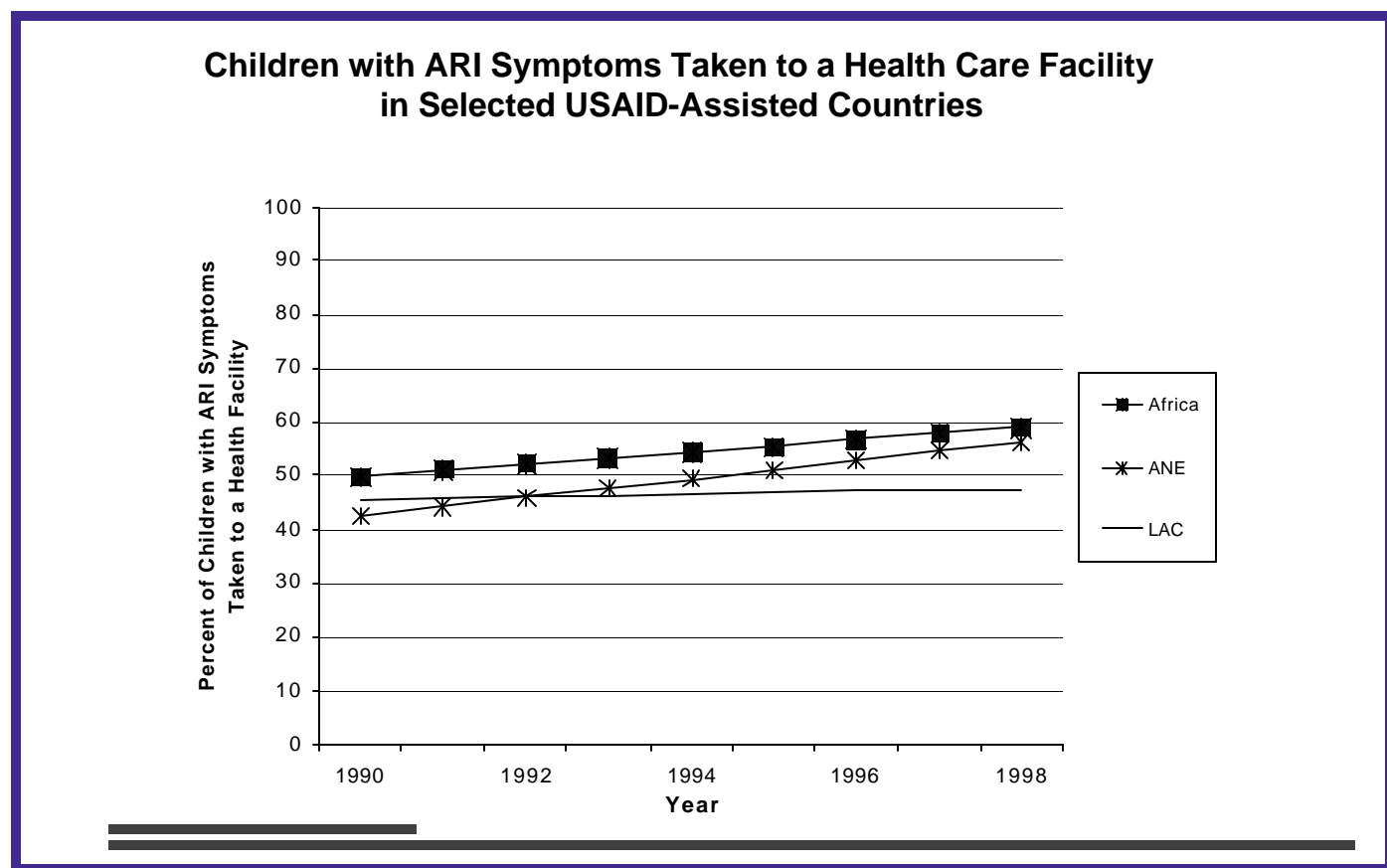


Figure 10

## *USAID's Role*

Even more than diarrhea, severe ARI requires assessment and treatment by someone other than the family. Accordingly, an improvement in ARI care partly depends on effective health care services. USAID supports improving health service delivery and ARI care by including ARI as one of the major elements of the global Integrated Management of Child Illness strategy. In countries where children may not have easy access to health services, USAID is also working with local and national governments and partners, including PVOs and local NGOs, to make ARI assessment, referral, and even treatment available through trained community health workers.

USAID support in the area of ARI is targeted to providing technical assistance, training of health service providers and community health workers, designing health education and communication messages and programs, and improving supervisory and other management systems. USAID is also working to prevent the spread of childhood ARI that are either caused or aggravated by poor environmental conditions, including indoor air pollution, and related high-risk behaviors.

USAID is also engaged in other strategies to reduce the threat of ARI to children. In the first case USAID is working with partners to develop, evaluate, and introduce new vaccines against the major causes of lethal ARI in young children. Such vaccines could reduce the ARI threat by almost half, saving countries and families the risk and cost of providing treatment to children under difficult circumstances. Second, USAID works to increase optimal breastfeeding which could reduce young child ARI by at least one-third, and this in the most vulnerable age group. The third strategy involves research into the relationship between the incidence and severity of pneumonia and nutritional factors, such as zinc deficiency.

Under the fourth strategy, USAID is exploring with WHO, the World Bank, and other partners the feasibility of addressing indoor air pollution as a means of reducing the incidence and severity of pneumonia. Indoor combustion of wood, dung, and crop residues has been shown to be an important risk factor for ARI. Current efforts focus on determining the feasibility of effective interventions to address indoor air pollution from a health perspective.



## *Profiles of Successful Programs*

**Role of NGOs and community health workers in expanding case management of ARI.** As part of its integrated family planning and health program, USAID/Bangladesh supports local NGOs in the delivery of an essential package of family planning and health services in over 280 clinics serving almost 4 million families. As a result of training health providers and supervisors in ARI case management, the number of childhood pneumonia cases detected and treated at these facilities increased from 600 a month in 1996 to over 2,500 a month in 1999.

By the end of 1999, USAID and its partners helped the Nepalese Ministry of Health to expand community-based case management of pneumonia to 14 of the country's 75 districts. Studies show that, historically, only about 17 to 18% of pneumonia cases ever reached a health facility; with the community-based program, however, 46% of cases are now treated. Studies also confirm that the knowledge and skills of the Female Community Health Volunteers are remarkably high; 80% of the female volunteers who implement the program follow its treatment guidelines.

**Research critical to devising strategies to prevent childhood pneumonia.** USAID-supported researchers have demonstrated that low birth weight, malnutrition, and lack of breastfeeding are important risk factors for childhood pneumonia. In addition, USAID-supported research helped demonstrate that zinc supplementation for children in developing countries results in a substantial reduction in the incidence of pneumonia.

In 1991, the first Haemophilus influenza type B (Hib) vaccines were licensed in the United States, Canada, and Europe. USAID supported trials that demonstrated the efficacy of the Hib vaccine in

developing countries. Building on this success, USAID supported disease burden studies and policy dialogue in collaboration with the Pan American Health Organization and helped to get the Hib vaccine included in the basic immunization schedule of ministries of health in the LAC region. In 1998, 29% of newborns in the LAC region received the Hib vaccine. By December 1999, 75% of newborns had access to the Hib vaccine as part of their routine immunization schedule. Countries already using the Hib vaccine, have seen a significant reduction in cases of meningitis and respiratory infections.

USAID is continuing to support efficacy studies for a child pneumococcal vaccine, which is expected to be licensed in the near future along with other vaccine candidates. The new pneumococcal vaccines will further decrease the burden of pneumonia in developing countries.

## *USAID's Global Leadership*

USAID continues to provide global leadership in all aspects of prevention and treatment of ARI. USAID's highest priority is to incorporate community-based case management of ARI into the Integrated Management of Childhood Illness strategy. USAID is also working with other donors, including the new Global Alliance for Vaccines and Immunizations, both to introduce the Hib vaccine into countries with a significant disease burden from this infection, and to prepare for the eventual introduction of a pneumococcal vaccine. Finally, USAID will continue its innovative research to identify new and more effective interventions. Promising research include an investigation of the role of indoor pollutants as a risk factor for ARI and the role of zinc in decreasing the incidence and severity of ARI.

## Reducing Micronutrient Deficiencies and Malnutrition and Promotion of Breastfeeding

Recent evidence strongly confirms that malnutrition underlies more than half of early childhood deaths in developing countries and compromises the physical and cognitive development of many children. Inadequate dietary intake, complicated by frequent illness, initiates a potentially fatal spiral of disease for many children. Over the long run, malnutrition undermines the ability of children to reach their potential and become productive adults, and, in turn, retards and limits national socioeconomic development.

Recent scientific findings indicate that for children five years of age or younger, even mild-to-moderate malnutrition poses a substantial and largely irreversible threat to survival and development (Pelletier et al., 1993). Data provided by USAID Demographic and Health Surveys indicate a continuing high prevalence of moderate malnutrition, even in countries where severe malnutrition has been significantly reduced. USAID is therefore placing greater emphasis on ensuring the quality of children's nourishment, especially in the first two years of life.

USAID also recognizes that maternal nutrition plays a critical role in the development of healthy infants. Children born to malnourished mothers are deprived of essential nutrients for development before and after birth while depletion of maternal nutrient stores compromises mothers' own health as well as their ability to care for their children. Owing to the highly complex set of factors contributing to malnutrition in most settings, a particularly challenging task for public health professionals has been the design of effective interventions that generate positive and lasting improvement in the nutritional status of populations.

USAID has answered the challenge in recent years by revising its strategic approach to reducing malnutrition.

### *USAID's Strategy*

To help define and focus its approach to nutrition, USAID has promoted a minimum package of six priority nutrition interventions that can be effectively integrated into all child and maternal health programs. The interventions call for the promotion of

- exclusive breastfeeding for approximately six months;
- adequate complementary feeding, with continued breastfeeding from approximately six to 24 months;
- adequate nutritional care of sick and malnourished children;
- adequate Vitamin A status;
- adequate iron status; and
- adequate iodine status.

Of these six interventions, USAID is devoting extra effort to the reduction of micronutrient deficiency, especially Vitamin A, and the promotion of breastfeeding. In addition, USAID supplies Title II Food Aid to low-income food deficit countries and those countries in crisis.

### *Breastfeeding and Young Child Feeding*

Exclusive breastfeeding in the first six months that is then sustained for two years or more is the best source of nutrition and the most cost-effective disease fighter in areas with a high burden of infectious disease. Any reduction in breastfeeding increases fertility rates and can have dire consequences on infant and child

## USAID Child Survival and Disease Programs Fund Progress Report

survival. In addition to the promotion of exclusive breastfeeding for six months followed by continued breastfeeding with appropriate complementary feeding, USAID advocates continued breastfeeding of infants during illness; increased feeding of children during recuperation periods; and improvement in the nutritional well-being of women of reproductive age.

USAID continues to support breastfeeding for all mothers and infants, particularly in HIV-prevalent areas where about one out of 35 children might be infected with the virus via breastfeeding. Even in countries with the highest levels of HIV infection, most

pregnant women remain uninfected; even among HIV positive women, most of their infants remain uninfected. In these settings, the protective effects of breastfeeding against infectious diseases and malnutrition far outweigh the risks of HIV infection. USAID promotes breastfeeding in 27 countries by providing technical assistance to governments and NGOs, fostering supportive national policies, and supporting multimedia communication campaigns.

Figure 11 below demonstrates the positive influence of targeted USAID-supported breastfeeding programs.

**Exclusive Breastfeeding**  
**Percent of Infants under Six Months Old Who Received No Foods or Fluids Other than Breastmilk in Last 24 Hours**

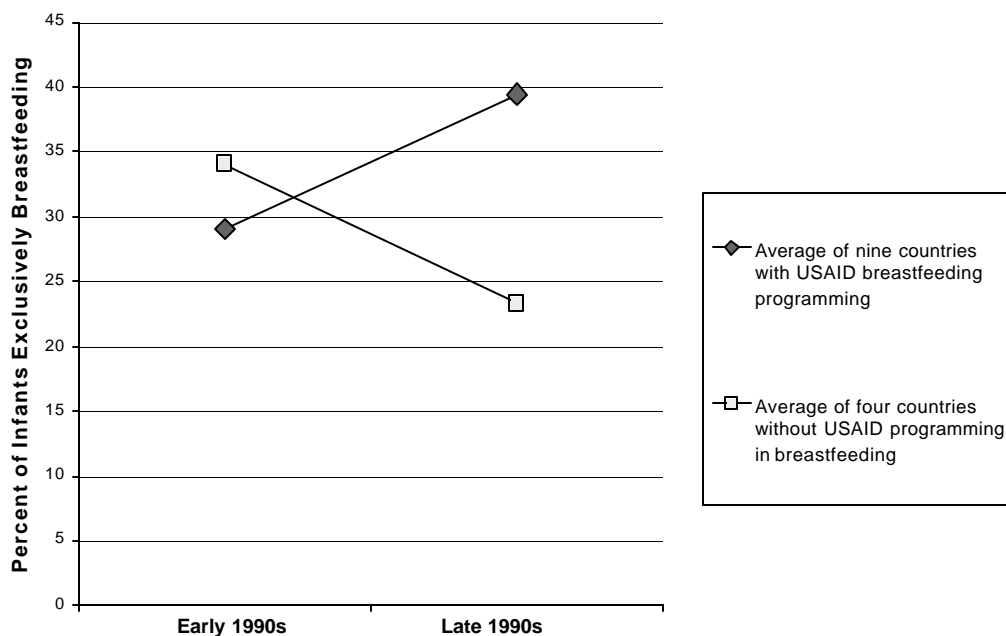


Figure 11

## Vitamin A

Vitamin A deficiency is estimated to affect as many as 250 million children under the age of five (WHO, 1995). Alleviation of Vitamin A deficiency in many parts of the world will mean a substantial reduction in child deaths due to common infections as well as the prevention of irreversible blindness and improved health and development. Launched in 1997, USAID's Enhanced Vitamin A Effort (VITA) elevated Vitamin A to a priority intervention within the Agency's child survival programs. Recognizing that it could not act alone in this effort, USAID has established an alliance with other key partners (see Vita Alliance, page 37).

USAID-funded research in the 1980s showed that the elimination of Vitamin A deficiency in children in areas of endemic deficiency can reduce childhood mortality by 30%, even in the absence of other

interventions. Research has led to the inclusion of Vitamin A delivery, particularly routine periodic supplementation, as a major component of child survival programs. High-dose supplementation of children twice a year through National Immunization Days, child health days/weeks, and/or routine health services has proven effective in reaching young children. To sustain impact and reduce government investment, many countries are also initiating programs that fortify widely consumed foods (e.g. sugar, flours, and cooking oils) with Vitamin A. Other food-based strategies include the introduction of Vitamin A-rich crops and promoting increased consumption of these foods by young children and their mothers.

In 1999, USAID supported Vitamin A capsule distribution programs in the Africa, ANE, and LAC regions. Figure 12 below shows the recent status of capsule coverage in seven of these countries.

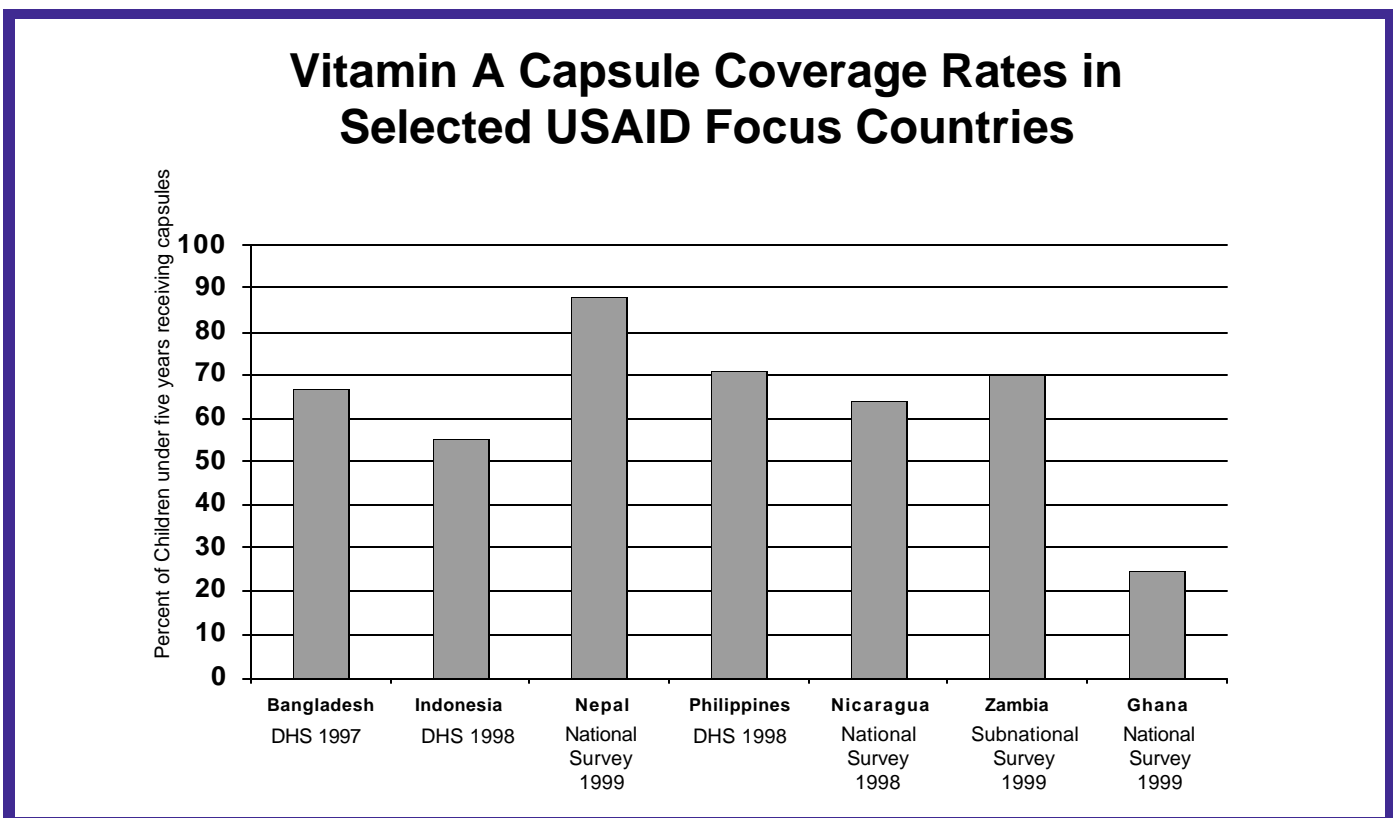


Figure 12

# USAID Child Survival and Disease Programs Fund Progress Report

The high coverage in Bangladesh, Indonesia, and Nepal reflects USAID's longstanding involvement as a partner in developing and implementing Vitamin A programs. To reach and sustain 80% coverage requires a comprehensive package that includes adequate supply and distribution of capsules, health worker training and supervision, community mobilization, and government commitment.

## *Vita Alliance*

Launched in late 1997, USAID's Enhanced Vitamin A Effort (VITA) is an international alliance that harnesses the resources and technology of both the public and private sectors to combat Vitamin A deficiency worldwide.

On March 16, 1999, the First Lady of the United States joined USAID in inviting VITA Alliance members to declare their commitment to work together to reduce Vitamin A deficiency. Key leaders in the alliance include bilateral donors, particularly Canada and Japan; UNICEF; the World Health Organization; civic organizations such as the Lions Club and Kiwanis International; and the PVO community. Key to the long-term success of the alliance is the participation of the private sector, including eight major food and pharmaceutical companies: Land O'Lakes; Kellogg; Mars, Inc; Procter & Gamble; Tate & Lyle, Plc; Monsanto; Roche; and BASF.

The alliance will work with governments and the NGO community to ensure the necessary supply of Vitamin A capsules, expand food fortification and quality control, and promote dietary behaviors to increase the intake of Vitamin A-rich foods.

## *Other Micronutrients*

USAID works with its partners to prevent and control other micronutrient deficiencies, particularly iron and iodine. With UNICEF and Kiwanis, USAID has supported the global initiative to eliminate iodine deficiency through universal salt iodization, providing technical assistance to and strengthening the monitoring and evaluation of national programs. Anemia affects over 2 billion women and children (WHO, 1999), with profound consequences for health and productivity. Owing to anemia's complex etiology, reducing the condition is programmatically complicated by the need to address malaria, parasitic infections, and other chronic illness as well as iron and other micronutrient deficiencies. Consequently, USAID is promoting integrated health and nutrition approaches to anemia, including antenatal iron/folate supplementation, antimalarials, and antihelminthics. In addition, fortification of staple foods, e.g., wheat and maize flours, with iron and B-vitamins is either underway or being explored in many countries. Rapidly accumulating evidence from USAID-supported studies suggests that zinc may also have profound effects on child morbidity, e.g., ARI and malaria, in developing countries, raising the possibility that zinc may also be included in supplementation and fortification programs in the foreseeable future.

## *Food and Nutrition*

The Agency supplies a large portion of the world's food aid to low-income food deficit countries and those in crisis under Title II. In FY 1999, USAID distributed over 450,000 metric tons of blended/fortified (including micronutrient fortified) foods worth over \$270 million. Included in this tonnage for the first time was Vitamin A fortified vegetable oil. Based on the results of USAID-supported research and feasibility assessments, the Department of Agriculture began adding Vitamin A to the vegetable oil distributed annually under the Title II program. In

addition, USAID supports improved food quality, safety and storage policy for improved health outcomes in all countries that receive food aid and others.

### *Profiles of Successful Programs*

**National micronutrient days and Vitamin A awareness weeks.** USAID has been instrumental in providing technical and programmatic support for national child health days or national micronutrient campaigns in five countries (Bangladesh, Nepal, Nicaragua, Philippines, and Zambia) whereby Vitamin A capsules are widely distributed along with key nutrition education messages. In 1999, Zambia held its second national Vitamin A awareness week reaching 70 to 90% of the children under five years in targeted districts, an increase over 1998's 53% coverage rate.

**Vitamin A supplementation program expansion.**

Linking Vitamin A with National Immunization Days has become one of the leading mechanisms by which Vitamin A capsules are administered to children under five. In 1998-9, USAID assisted 18 countries to add Vitamin A capsule distribution to National Immunization Days to eradicate polio. Six of these countries achieved more than 50% capsule coverage of children.

**Vitamin A fortification program expansion.**

Paving the way for a shift from universal to targeted national supplementation programs, several countries undertook efforts during 1999 to accelerate the delivery of Vitamin A through fortified, commercial food products. In the Philippines—where one-third of preschool-age children are Vitamin A-deficient—President Estrada has made fortification of wheat flour with Vitamin A a major initiative under his country's antipoverty program. In a landmark activity, Zambia became the first African nation to fortify sugar with

Vitamin A; sales significantly increased by 15%. Uganda is following Zambia's lead and has completed an assessment demonstrating the feasibility of sugar fortification as a central element of a national Vitamin A program.

**Breastfeeding promotion.** In Zimbabwe, the ZVITAMBO project counsels mothers about exclusive breastfeeding and special infant feeding practices in cases of maternal HIV infection, as well as about the benefits of providing Vitamin A to mothers and infants at birth. In Madagascar, exclusive breastfeeding rates rose by 10% in a single year through the creation and distribution of cards to counselors detailing national infant feeding guidelines.

**Honduras's AIN—Atención Integral a la Niñez**

A nutrition and preventive health program supported by USAID, other bilateral donors, local NGOs, and the Ministry of Health, is currently working with more than 7,000 families in 250 communities throughout Honduras. AIN ensures that children maintain adequate growth through monthly visits with trained community workers who weigh each child, counsel parents, and provide basic health services. Preliminary evidence shows far fewer malnourished children in AIN. In the Sacred Heart Community, for instance, 91% of under-twos gained adequate weight in April 1999 compared with only 39% in January of the same year.

**Title II Food Aid.** In Mozambique, a Title II child nutrition program resulted in positive improvements in growth. Over 75% of participating children gained weight during a 28-day period, and more importantly, participating mothers had a graphic demonstration of the link among better eating, weight gain, and improved health status of their children. In Peru, an intensive maternal-child health and nutrition program with a focus on community health surveillance led to significant improvements in child nutritional status in

## USAID Child Survival and Disease Programs Fund Progress Report

program areas. In the under-three target group, acute child malnutrition rates decreased by 75% while chronic child malnutrition rates decreased by 11%. In southern Sudan, U.S. food aid helped cut malnutrition rates in children under five from 33% to 18% in just seven months.

### *USAID Global Leadership*

USAID leads the international community in supporting research to document the role of Vitamin A in child survival as well as translation of these findings into official policies, guidelines, and community-based programs. Through the International Vitamin A Consultative Group (IVACG) and the International Nutritional Anemia Consultative Group (INACG), USAID works to mobilize the international community to establish standards and guidelines to address the most serious nutritional deficiencies. WHO, UNICEF, and other development organizations are using these scientific findings and established practical approaches to extend assistance to vulnerable communities on a global scale.



## Integrated Management of Childhood Illness

The Integrated Management of Childhood Illness (IMCI) strategy is a joint initiative of UNICEF and WHO, with strong support from USAID. The impetus for the development of the integrated approach derived from the success of child survival programs.

One factor leading to the IMCI approach was the recognition that—beyond the original “twin engines” of immunization and ORT—child survival had come to encompass a substantial set of interventions that were relevant to many children: ARI treatment, promotion of breastfeeding and appropriate feeding of older children, Vitamin A supplementation, and malaria treatment. Health workers had undergone training in some of the various “vertical” program elements but experienced difficulty applying them all systematically in their clinic settings. A 1997 study in Morocco indicated that over 50% of children seen in public health facilities in two provinces were misdiagnosed or received inappropriate treatment.

At the same time, experience had demonstrated that many children who visited health facilities suffered from more than one of the above conditions. For example, a child coming to a health worker because of an acute respiratory illness might be behind on immunizations and Vitamin A supplements as well as undernourished because of inadequate feeding. For some conditions, symptoms might overlap. Therefore, an approach that assessed the needs of the whole child was indicated.

Another factor pointing to the need for an integrated approach was that, in an era of decentralizing health systems, regional and district facilities (unlike centralized ministries of health) had inadequate staff and resources to support a large number of separate

“vertical” child survival program elements. An integrated approach was the only approach that could work in reorganized health systems.

### *USAID’s Role*

In response, USAID supported the applied research that led to the development of the IMCI approach. IMCI combines proven technical approaches to diarrheal illness, ARI, breastfeeding promotion, immunization, Vitamin A supplementation and has added new approaches for management of malaria and evaluation of nutrition. Research shows that IMCI now represents the best treatment a child can receive in places where more sophisticated medical staff and capabilities are unavailable.

### *IMCI—Addressing the major causes of child mortality*

WHO estimates that the five conditions at which IMCI is aimed—diarrheal disease, ARI, measles, malaria, and malnutrition—account for almost three-fourths of all child deaths in the developing world. Given the burden of childhood illness and preventable child mortality in poor countries, the World Bank has estimated that IMCI addresses the largest share of the global burden of disease of any set of health interventions. For this reason, and because IMCI consolidates existing low-cost child survival interventions, the World Bank identifies IMCI as one of the most important and cost-effective interventions to reduce the global burden of disease.

# USAID Child Survival and Disease Programs Fund Progress Report

## *Profiles of Successful Programs*

As shown in figure 13, IMCI was first introduced in 1997 in Africa and by mid-1999 was being implemented in 63 countries worldwide (23 with USAID support). USAID is a major supporter of the IMCI initiative.

In the LAC region, seven of eight IMCI target countries have adapted IMCI to their national norms and protocols. To date, 7,588 health workers in the region have been trained in the IMCI clinical case management course.

In Bolivia, USAID helped promote the inclusion of IMCI principles as a priority intervention within the National Health Insurance Program, thereby institutionalizing the approach on a nationwide level.

In Africa, the following has been accomplished in the implementation of IMCI: 22 countries are at the introduction or early implementation phase, four countries are at the expansion phase, and another 13 have adopted IMCI as an essential strategy.

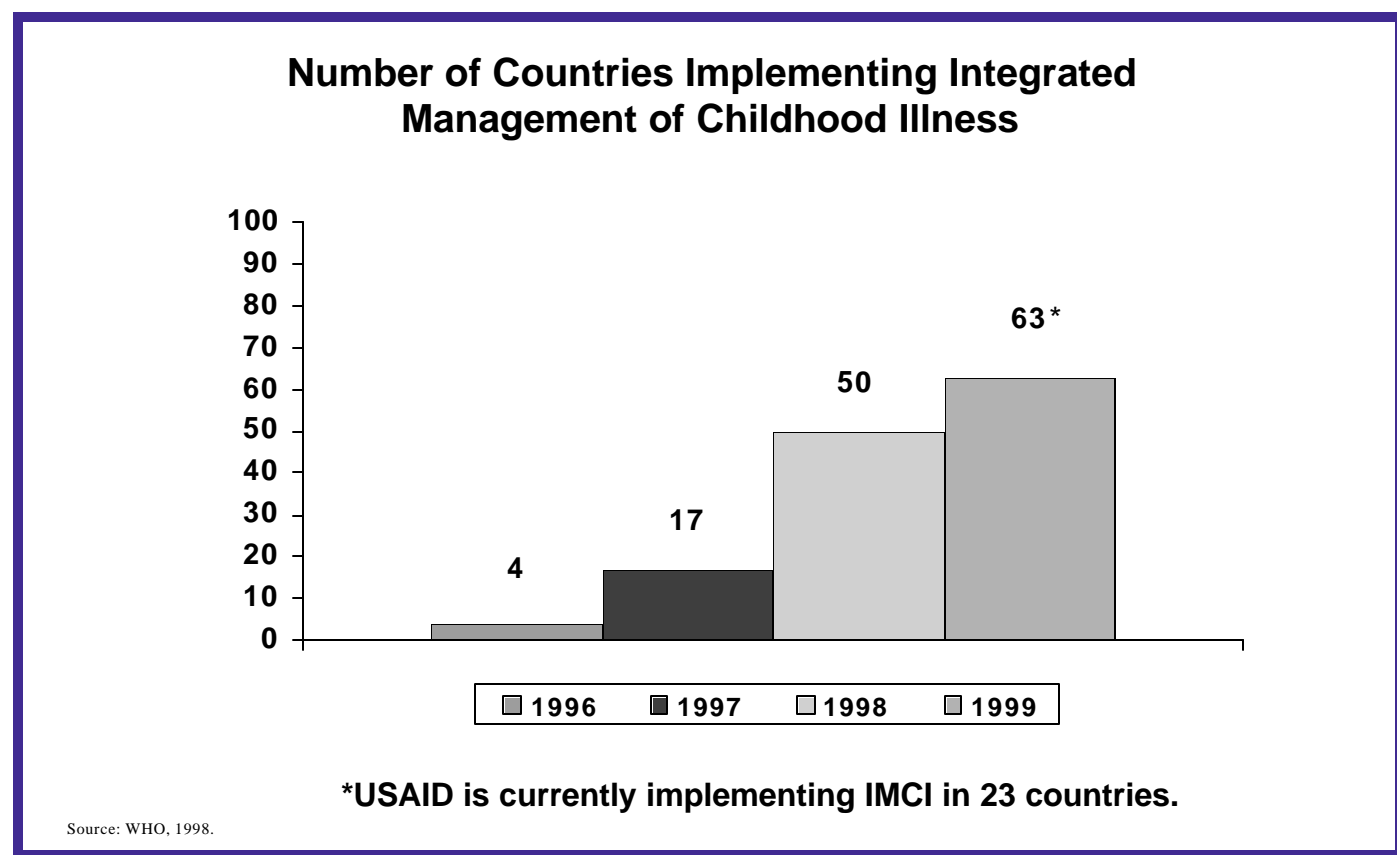


Figure 13

### *USAID's Global Leadership*

In all regions, USAID advocates and supports the geographic expansion of IMCI. The Agency also supports the development and application of an IMCI community component to strengthen community and household practices for reducing the frequency of the illnesses that IMCI addresses and to increase the likelihood that children will receive needed care when they become ill.

USAID is funding research to refine IMCI treatment guidelines. The results will be applied to improve the case management of non-severe pneumonia, develop lower cost alternative antibiotic regimes for the management of severe pneumonia, and determine antimicrobial resistance among organisms responsible for pneumonia. Research will also help improve IMCI feeding recommendations and guidelines for the use of IMCI in high- HIV-prevalence countries. In addition, USAID will support the evaluation of the effectiveness of the IMCI approach.

## B. Maternal and Neonatal Health

### *Background*

An estimated 175 million women become pregnant every year (UNFPA,1999). Millions of these women suffer complications and close to 600,000 die (UN, 1999). In addition to the toll of maternal death and disability, maternal complications contribute to more than three million stillbirths and another three million infant deaths in the first week of life (UN,1999).

**Nutrition Status.** Maternal nutritional status at the time of conception has a major impact on birth outcomes. A first pregnancy when a girl is too young and pregnancies that occur closer than three years apart contribute to poor maternal nutritional status and poor infant and child survival. Therefore, food, micronutrient, and related nutrition interventions, as well as first birth delay and child spacing, are important elements in USAID's child survival strategy.

**Preparation for birth.** The birth of a healthy child depends on the health and nutrition of the mother as well as on care of the mother throughout pregnancy. In addition, the prevention and treatment of maternal infection—such as tetanus, HIV, syphilis, and malaria—is essential for the birth of a healthy, normal birth weight infant.

**Sanitary and safe births.** Over the years, it has become increasingly clear that childbirth is far too dangerous to be entrusted to attendants who have neither the training nor the equipment to handle difficulties when they arise. In the developing world, more than 50% of women still deliver their babies alone or with unqualified help in unsanitary and unsafe conditions—leaving women and infants vulnerable to death and disability. To improve the odds for both mothers and babies to survive childbirth, it is essential

to improve birthing conditions. By increasing the number of deliveries attended by medically trained personnel skilled in midwifery.

**Postpartum and newborn care.** Once the baby is born, immediate care with warming, hygiene, and early breastfeeding gets the newborn off to a healthy start in life. For some infants, immediate resuscitation is needed to start breathing. Supporting a mother's recovery from birth strengthens her ability to nurture her fragile infant into healthy childhood.

### *USAID maternal health interventions to improve neonatal health*

- Iron folate supplementation
- Tetanus toxoid immunization
- Syphilis control
- Presumptive treatment for malaria
- Counseling on safe health practices and preparation for birth
- Safe, clean delivery with skilled attendant
- Treatment of maternal complications of labor and delivery
- Early and exclusive breastfeeding

The Agency has supported a core set of activities to improve health outcomes for pregnant women and newborns in the developing world: research, policy development and advocacy, community activities to promote healthy behaviors and use of services, and delivery of high-quality maternal and newborn services.

Where maternal mortality is particularly high, providing essential obstetric and newborn care at the first level of referral could treat 85% of obstetrical complications with low-tech procedures, thus saving many lives. USAID's strategy is to encourage and support countries in staffing, equipping, and monitoring maternity facilities and to increase rates by encouraging women to seek timely care and urging

maternity services to become more accessible, friendly, and acceptable.

During the 1990s, USAID gradually introduced life-saving maternal and neonatal health interventions into community and maternity services, including the presence of skilled attendants at births. As shown in Figure 14, in the LAC and ANE regions results have been encouraging. Over the past decade, the percent of births attended by medically trained personnel, a proxy indicator for maternal mortality rates, has slowly increased. Unfortunately, Africa has recorded no improvement, suggesting that civil unrest and economic difficulties affecting the use of other child health services have resulted in decreased use of maternity services.

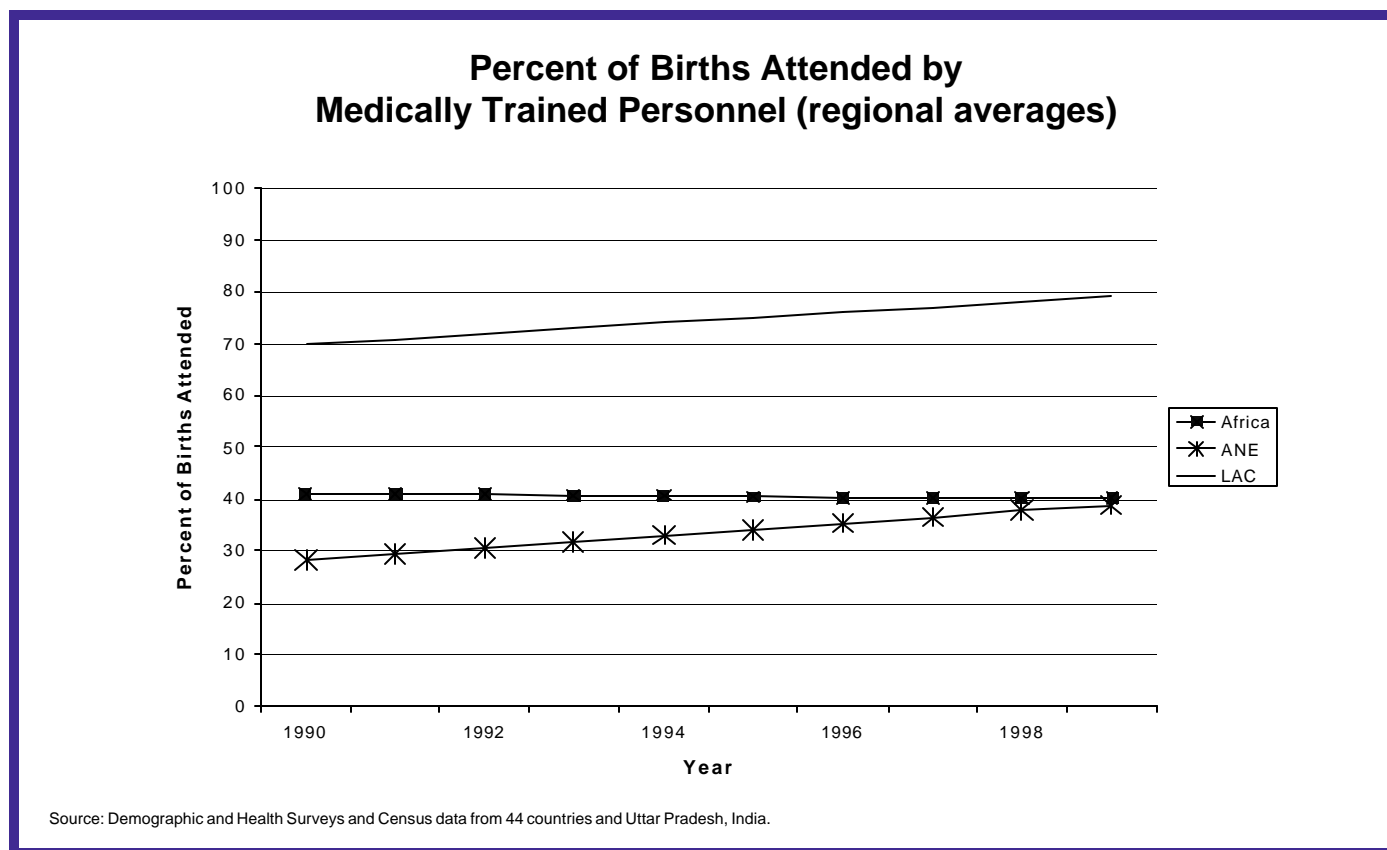


Figure 14

# USAID Child Survival and Disease Programs Fund Progress Report

## *Profiles of Successful Programs*

**Iron supplementation for pregnant women.** In Malawi, to fight the debilitating effects of iron deficiency, USAID focused on women living on or near two large tea estates where nearly two-thirds of pregnant and recently delivered women suffer from anemia, including an alarming 3 to 4% with severe anemia. From 1996–98, the provision of more consistent iron supplies and improved provider distribution in the community and on tea estates led to a 200% increase in women receiving iron supplements.

**Vitamin A supplementation in pregnancy.** A large USAID-funded community trial of 44,000 women in rural Nepal demonstrated that weekly dosing of women with recommended dietary levels of Vitamin A or beta-carotene reduced maternal mortality by approximately 40%. The trial also found that a simple history of night blindness can identify women at high risk of morbidity and mortality during and following pregnancy as well as identify women who may require special nutritional support, antenatal care, and counseling. This important finding is being followed up with other studies to verify and determine impact in other settings.

**Fighting syphilis in Bolivia.** If left untreated, syphilis predisposes a mother to HIV infection and greatly increases a child's risk of stillbirth, congenital infections, and early death. In seven Bolivian sites, USAID and the CDC found a 4.3% syphilis prevalence rate in women whose pregnancies resulted in live births. As a result of these findings, Bolivia's Ministry of Health launched a national syphilis control program in FY99. The program includes a training package developed with USAID support and has the potential to reduce significantly perinatal death and disability.

**Tetanus immunization in Haiti.** In 1994, only 49% of pregnant women in Haiti had received two doses of tetanus toxoid before delivery. USAID addressed this critical problem by educating mothers and improving prenatal care services. By 1998 in an area of 3 million persons, 68% of pregnant women had received the recommended two immunizations, thereby preventing deadly neonatal tetanus.

**Family-centered maternity care in Ukraine.** A USAID project educated Ukrainian families about the care pregnant women require before, during, and after childbirth, encouraged family involvement in decision making, and discouraged the use of unnecessary technology. In two regional hospitals, the project has resulted in cost savings for clients, fewer unnecessary procedures, and fewer medical inductions of labor and caesarian sections—with no documented increase in adverse outcomes. In 1999, the cost-effective, family-centered program was undergoing expansion to other areas in Ukraine and adaptation for use in Russia.

**Educating the public in Bolivia.** A radio soap opera, entitled “Destiny's Diary,” broadcast in Spanish, Aymara, and Quechua in 1998–99, has caught the attention of thousands of rural Bolivians. Through 60 episodes filled with love and intrigue, a young nurse teaches listeners about pregnancy, what to do about obstetric complications, and how to improve their chances for a healthy baby. A recent poll found that 83% of the targeted rural community had heard the program. More radio stations are now requesting the program for broadcast.

**Improved delivery conditions.** In 1994, only 46% of births in Haiti were assisted by qualified personnel (nurses and physicians). USAID addressed this critical problem by educating mothers about prenatal care and by training midwives. In 1998, these

strategies helped increase assisted births to 75% in USAID-assisted areas.

**Emergency obstetric care in Morocco.** Morocco has one of the highest maternal mortality rates in the Arab world. USAID and the Moroccan Ministry of Health set up modern emergency obstetric care facilities in two poorly served regions of more than 3 million people, equipping 52 health facilities and renovating 32. The number of sites offering basic services increased from 30 to 55, and nearly 300 health care providers have received intensive obstetrical training. A survey completed in 1997 indicates that maternal mortality rates are decreasing. Encouraged by this success, Morocco has now embarked on similar projects in other parts of the country with funding from other donors.

### *USAID's Global Leadership*

In partnership with UNICEF, WHO, the World Bank, and others, USAID is taking a leadership role in highlighting the convergence of maternal and neonatal health strategies to improve child survival. An example of this collaboration is USAID support to WHO in the development of strategies for the elimination of neonatal tetanus in many countries. In addition, USAID is helping establish a global neonatal research agenda. USAID continues to support the implementation of a core set of activities to improve health outcomes for pregnant women and newborns.

## C. Health Policy and Systems Strengthening

### *Background*

Despite clear indications that we have remarkably effective tools to combat many of the health conditions plaguing less developed countries, basic health services still fall short of adequately serving children's and their families' health needs. While interventions such as immunization, oral rehydration therapy, Vitamin A and antibiotics are relatively cheap, simple, and effective, they depend on the functioning of core management systems, including planning and resource management, personnel management, and information collection and use. In the countries where USAID works, these management systems are often underdeveloped, fragile, underfunded, and inefficient and impede the delivery of life-saving interventions to target populations.

In this environment, funding for more than the procurement of the raw materials of interventions is needed. Transport, logistics of distribution and storage, health worker training, communication materials development, efficient and targeted financing mechanisms, disease surveillance, and health information systems are critical to the delivery of interventions. Without system improvements, the impact of health programs is reduced, particularly among difficult-to-reach populations.

Implementing an intervention as "simple" as providing Vitamin A capsules twice a year to vulnerable children requires a functioning health system as well as timely product provision. For example, the correct number of properly formulated capsules must be procured at a reasonable cost and then transported to national, regional, and district distribution sites. Health workers must be trained in administration techniques and schedules, the community must be informed about

the advantages of Vitamin A supplementation and given information on where and when capsules will be available, and so on.

### *USAID's Strategy*

In response to weak health care systems, USAID's health policy and systems strengthening program has established a four-pronged approach to provide needed support to the countries in which the Agency works.

- **Financing.** More efficient use of health sector financial resources is an essential step. Many low and middle income countries are unable to fully finance priority health interventions and have limited capability to target resources. The focus is on rational financing policies and mechanisms to protect financial access for the poor and to ensure affordability of basic health care. Rational financing can ensure resources are targeted to preventive services and child survival interventions that we know work. Rational financing also can sustain health system improvements after USAID assistance ends.
- **Human Resources.** Ensuring effective, efficient, and high quality health services involves not only training of personnel, but improved planning, management, and organization of health systems and services. This requires that staff have the skills and tools to comply with well-defined standards of care, that training is of high quality, appropriate licensing and accreditation takes place, and that personnel as well as financial resources are efficiently managed.

- **Drugs and Commodities.** Availability and appropriate use of commodities for priority health programs is often a key impediment to effective service delivery. As much as 50% of the therapeutic value of drugs and pharmaceutical supplies is lost due to wastage and ineffective drug management practices. Inappropriate drug use and poor drug quality also contribute to increased antimicrobial resistance. USAID supports the appropriate selection, quantification, and procurement of commodities and provides support to rational drug use initiatives.
- **Information.** Lack of access to and use of accurate, appropriate information foster waste and inefficiency in the use of resources, as well as contribute to the potential for health problems or disease outbreaks to go undetected. Working with host-country governments and private sector partners to improve the use, collection, and quality of information is essential for achieving long-term impact on health.

### *USAID's Role*

**Appropriate resource allocation.** USAID helps strengthen the capacity of developing countries to develop and adopt rational policies governing the allocation and use of health resources and to improve their financial management capacity. This includes resources and contributions from government, donors, employers, employees, non-governmental programs, and clients themselves. USAID also works with WHO and other international partners to conduct burden-of-disease and intervention cost-effectiveness analyses and advocates for the use of such analyses to inform reallocation of government health budgets. USAID also helps countries identify alternative mechanisms, including user fees, community

financing, and other means of generating, allocating, and managing resources.

**Cost-effective and sustainable health services.** USAID works with countries to expand their ability to manage, plan, and organize health services. Over the years, USAID has acquired extensive experience in helping countries manage the decentralization process and the integration of health services and supply systems. USAID helps to ensure that such reforms are equitable, protect the poor, and improve health status.

**Sustainable consumer demand for services and health promoting behavior.** Economic analyses of consumer demand are an essential element of planning and budgeting processes. Tools and methods have been developed to collect and analyze information on consumer preferences, concerns and needs for health services. This information can help managers more effectively design health delivery systems and information campaigns.

**Service equity.** USAID gives special attention to who benefits from public spending on health by supporting health sector efforts to promote fairness and equal access to services. USAID is also engaged in promoting the role of the private sector in service provision to help improve quality, and target public sector resources to those who are unable to pay for services.

### *Profiles of Successful Programs*

**Community contributions for NGO services in Bolivia.** In 1998, USAID projects were active in over half of Bolivia's 312 municipalities, providing training in health issues, budget planning, and resource allocation. As a result, communities better understand the importance of health and are able to leverage municipal governments to increase their budget allocations for the health sector. A total of

## USAID Child Survival and Disease Programs Fund Progress Report

59 municipalities now have formal agreements to provide a cash or in-kind counterpart contribution to NGOs, representing a significant governmental contribution to private sector delivery of services.

**Cost-sharing supports child health in Kenya.** In Kenya, USAID is providing technical support to the expansion of cost sharing in public sector facilities. Cost-sharing revenue helps to support the free maternal and child health services provided in outpatient clinics. In 1999, cost sharing generated close to 80% of non-wage recurrent costs in public facilities. Revenues provide about \$10 million annually.

**Improved drug management training and supervision tool.** USAID's pharmaceutical management program has developed the innovative Monitoring-Training-Planning (MTP) tool, a self-administered, stepwise, participatory approach for drug management training and supervision. The tool facilitates team building and improves drug management skills at the local level; it has been implemented in three countries. In Mozambique, implementation of MTP in five provinces has resulted in decreased drug wastage (due to expiration) by an average 41% and improvements in antibiotic use practices by an average 17%. In Ecuador, implementation of MTP in 16 provinces has resulted in a decrease in drug stockouts by an average 20%.

**Community support of user fees in Rwanda.** In Rwanda, the population is increasingly contributing to financing of health care costs through user fees. In the first half of 1999, the Rwanda Ministry of Health in collaboration with USAID and community members from three districts developed a prepayment scheme. The programs were publicized on national radio theater broadcasts. By September 1, more than 12,000 Rwandans—1.3% of the population of the three districts—had enrolled in the programs.

**Minimum benefits package in South Africa.** USAID-funded research of a low-cost minimum benefits package spurred new legislation in South Africa. In response to the research's recommendations, which defined an essential package of hospital services with costing estimates, the South African Department of Health drafted new legislation that will guarantee a minimum benefits package for all beneficiaries of private health insurance in South Africa.

**Changing policy in Morocco through South to South exchanges.** In an effort to improve access to maternal and child health services, Morocco is initiating legislative reform that will liberalize regulations related to the provision of medical services by paramedical professionals, specifically, licensed nurse midwives. By organizing exchanges between government officials from various countries, USAID assisted the government of Morocco in deciding to undertake legislative reform. Officials who participated in the exchange recounted their experiences with paramedical-led expansion of services. With midwives an important first line of health care providers (primarily among rural and poor populations), the legislation will expand midwives' ability to provide much-needed maternal and child health services.

**Quality assurance in Russia.** In 1998–9, in Russia, USAID supported the training of 28 trainers on quality assurance standards who, in turn, trained 150 health professionals who are now active on quality assurance teams. These teams have made significant improvements in the case management of neonates with respiratory distress syndrome and pregnancy induced hypertension. The results are adoption of evidence-based clinical guidelines and quality monitoring, redesigned systems of care, and significant reductions in the cost of care. The proportion of women hospitalized for pregnancy

induced hypertension decreased by 75% following implementation of clinical guidelines.

**Demographic and Health Surveys.** Since 1984, USAID has supported Demographic and Health Surveys that assist institutions in collecting and analyzing data on health and nutrition for decision making while providing valuable information on the progress and impact of health and nutrition programs. To date, the surveys have been conducted in over 100 countries. Beyond providing decision makers with valuable information on maternal and child health, child survival, and HIV/AIDS, the DHSs also play a major role in furthering international understanding of global health trends.

### *USAID's Global Leadership*

USAID exercises technical leadership to identify, develop, and apply new approaches to addressing health sector constraints affecting the delivery of services. Special initiatives typically involve close collaboration with donor partners and the leveraging

of other donor resources. A good example is the global National Health Accounts (NHA) initiative that is a collaboration of WHO, the Pan American Health Organization (PAHO), World Bank, and other organizations. The NHA is intended to standardize, institutionalize, and apply health financing information to decision making. USAID is assisting with NHA development in 28 developing countries and has entered into partnerships with other major donors to ensure that the work continues after USAID assistance ends.

USAID has developed a special initiative to address financing of immunization programs in developing countries. As new, relatively expensive vaccines become available, as donor funding for immunizations decreases, and as health sector reforms, such as decentralization, are introduced in several countries, the financing of immunization takes on added importance. In fact, Figure 15 on the following page illustrates an increase in budget allocations for immunization in selected African nations.

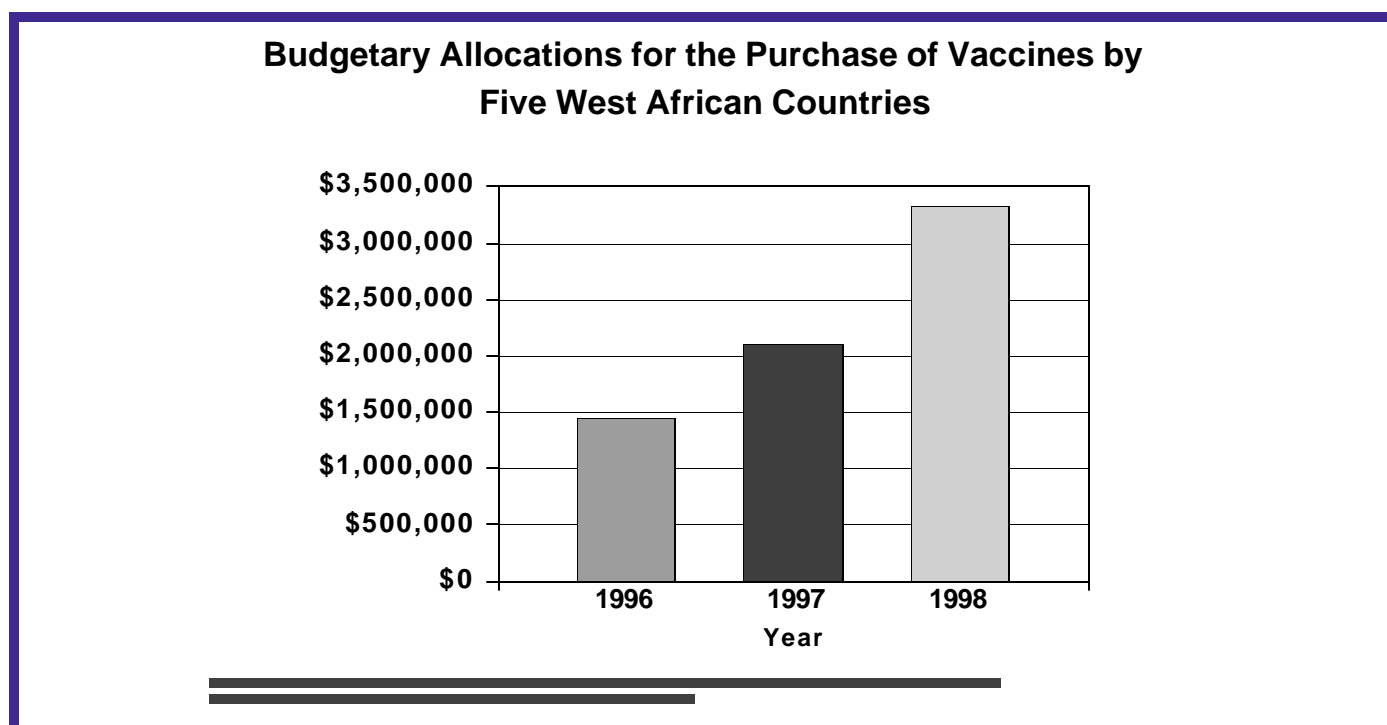


Figure 15

## D. Displaced Children and Orphans Fund

### *Background*

With support and encouragement from Congress, USAID's Displaced Children and Orphans Fund (DCOF) began to address the needs of orphans in 1989. It soon became apparent, however, that the overriding issues related to orphaned children concerned children who were living without the care or protection of a family or suitable guardian. Many orphans are in fact adopted or otherwise cared for by appropriate substitute families. Millions of other children living without parents, however, are either abandoned on the streets or placed in inappropriate, large, long-term institutional care. As a result, DCOF has focused on developing and supporting programs and methodological approaches that strengthen the capacity of families and communities to provide the necessary care, protection, and support for displaced children and orphans.

### *USAID's Strategy*

**Children affected by war.** At present, no fewer than 25 civil conflicts are being waged. As a result, 500,000 children are thought to be unaccompanied or separated from their families, and 300,000 children are thought to be participating as combatants in these conflicts. During Mozambique's 16-year war, 200,000 children were separated from their families.

**Children orphaned by AIDS.** The HIV/AIDS pandemic strikes at adults in the productive and protective demographic heart of a population. As a result, affected adults are frequently survived by children who find themselves in the care of older children or elderly grandparents. In just the 23 countries included in USAID's study *Children on the Brink*, the number of children orphaned as a result

of the epidemic will increase from under 25 million in 1990 to over 41 million in 2010.

**Street children.** An estimated 100 million children work or live on the streets of both the developed and developing worlds. These children end up on the streets as a result of social and financial distress at the family level. They are also the innocent victims of national economic and political collapse or transition. DCOF's strategies for addressing the needs of street children stress the primary importance of family and community-based care and protection as the first line of defense.

**Children with disabilities.** During FY99, DCOF addressed a new category of vulnerable children: children with disabilities. Stigmatized by cultural values and religious beliefs, children with disabilities are often hidden in back rooms or permanently placed in government institutions away from communities and society. DCOF is supporting community-based approaches to provide care and training in life skills.

### *USAID's Role*

Since 1989, DCOF has contributed more than \$74 million to programs in 28 countries. Most activities are carried out by NGOs that help develop and strengthen the capacity of local, indigenous community-based organizations to care for orphans and displaced children. The fund also works with international organizations, including UNICEF and the Joint United Nations Programme on HIV/AIDS (UNAIDS), and coordinates activities with major development units in USAID, including those managing not only health programs but also microenterprise, democracy and governance, and disaster assistance programs. Funds are currently

used in 12 countries with four new country programs expected in FY00. In FY99, approximately 362,000 children directly benefited from the DCOF. Figure 16 below provides the proportion of total funding by program along with the number of children (in parentheses) assisted through DCOF activities.

### *Profiles of Successful Programs*

The DCOF works to reunite children with their families. In Angola, over 1,400 families have been traced, 2,800 children registered, and 800 children reunified. Similar efforts are taking place in Eritrea, Sierra Leone, and northern Uganda.

Children in war need to regain their childhood. The need for children to grow and develop intellectually, emotionally, psychologically, and socially is just as

important, if not more so, than their physical development. Appropriate responses to these needs are features of all DCOF programs. Programs in Sri Lanka, Sierra Leone, the Democratic Republic of the Congo, and Kosovo offer useful examples.

- Initiatives in Brazil, Eritrea, Guatemala, Rwanda, Thailand, and Vietnam have helped strengthen, enforce, and amend policies and legislation protecting children's rights. In Brazil, approximately 800 cases of sexual exploitation were reported as a result of the Bahia state campaign against sexual violence, with 370 cases under investigation.
- Post-conflict programs have helped children reenter school in Angola, Liberia, Uganda, and Sri Lanka. More than 2,000 out-of-school

### **Numbers of Children Assisted and Proportion of Total Funding by Program**

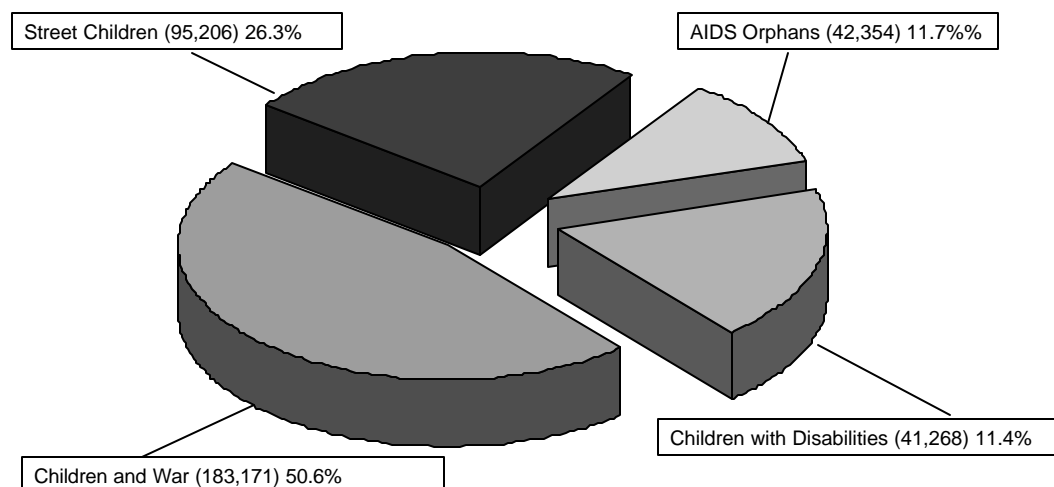


Figure 16

children were newly enrolled in school in Fortaleza, Brazil. More than 1,000 children have been enrolled in seven new community schools in Zambia. In Angola, 298,000 children are either direct or indirect beneficiaries of community-based arts activities designed to get children involved in normal activities.

- Young people who no longer fit into the formal education process have received other training that is enabling them to earn a living in Liberia, Rwanda, Ethiopia, Vietnam, Thailand, and Indonesia. In Liberia, 3,600 youth have enrolled in the WAYS program, with 2,700 completing the course. The aim of the program is to provide skills in literacy and small enterprise development.
- Children affected by HIV/AIDS received assistance from special programs that focus on their needs in Malawi and Zambia. Over 900 young people in Malawi participate in youth clubs organized by their communities. In Zambia, 14 communities have provided local resources to respond to the needs of 5,000 HIV/AIDS orphans.
- USAID worked intensively over the past eight years to address the plight of children in orphanages in Romania. As of 1999, foster parenting and domestic adoption have been authorized and are socially accepted. The social work profession (consisting of seven professional associations) and seven schools of social work have been restored nationally, resulting in improved counseling of parents who would normally send their children to orphanages. In addition, the government is reducing reliance on orphanages by downsizing them. This model is being replicated in Russia.

## II. Targeted Infectious Diseases

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### A. HIV/AIDS

#### *Background*

The HIV/AIDS pandemic is reaching crisis proportions. UNAIDS (December, 1999) estimates that 49.9 million adults and children have been infected with the human immunodeficiency virus since the disease was first identified. Of that total, 16.3 million have died. According to WHO, the global total of infected individuals could reach 60 million by 2000, with over 6 million new infections occurring each year. Most of the increase will take place in the developing world, where 90 percent of current infections exist.

New information suggests that for every ten African men infected with HIV, between 12 and 13 African women are infected. In addition, WHO estimates that 333 million new cases of sexually transmitted infections (STIs) other than HIV occur worldwide every year. In developing countries, STIs rank second only to maternal morbidity and mortality as a cause of healthy life years lost among women 15 to 44 years of age. In the most seriously affected countries, the HIV/AIDS epidemic reduces productivity and GNP per capita and imposes an enormous human and financial burden on health care systems. In Africa, this epidemic jeopardizes 40 years of economic and health development and has begun to affect under-five mortality rates and major economic indicators. The potential political and economic destabilizing effects of HIV/AIDS are profound.

#### *USAID's Strategy*

In 1996, USAID designed an updated strategy to respond to the growing epidemic. The strategy is based on the need for continued and expanded efforts to prevent HIV transmission and includes a new focus on mitigating the disease's impact on people and their communities. The strategy also continues to focus on three proven approaches to HIV/AIDS prevention, each of which has had demonstrable impacts in several countries. The approaches call for

- reducing high-risk sexual behavior through behavioral change interventions (BCI);
- increasing demand for and access to condoms, mainly through condom social marketing (CSM) programs; and
- treating and controlling STIs.

At the same time, USAID's expanded portfolio embraces new efforts to mitigate the effect of the pandemic on individual lives and communities. The first decade of HIV/AIDS programming has revealed that effective, individually focused approaches must be complemented or supplemented by services attuned to the environment in which individuals live and make sexual and health decisions. The expanded portfolio requires a strong emphasis on interventions that address couples, parents and children, social networks, religious tenets, worksites, and the interaction of sexual and health beliefs.

The expanded program therefore includes selected basic care and psychosocial support for HIV-infected individuals and their survivors, particularly orphans.

## USAID Child Survival and Disease Programs Fund Progress Report

Since 1997, funding for care and support programs has increased to 7% of the USAID HIV/AIDS budget and will further increase in the future. This renewed emphasis on care and support will enhance the prevention agenda and slow the deterioration of economic and social development caused by AIDS.

Part of this expanded program will concern care for orphans. The overwhelming majority of orphans affected by HIV/AIDS are living in their extended families and communities. Families and communities are the front line response to reducing the impact of HIV/AIDS on children and are their fundamental safety nets. USAID through governments, international organizations, non-governmental organizations, and others will begin to strengthen capacities of affected families and communities to cope with the impact of HIV/AIDS in children.

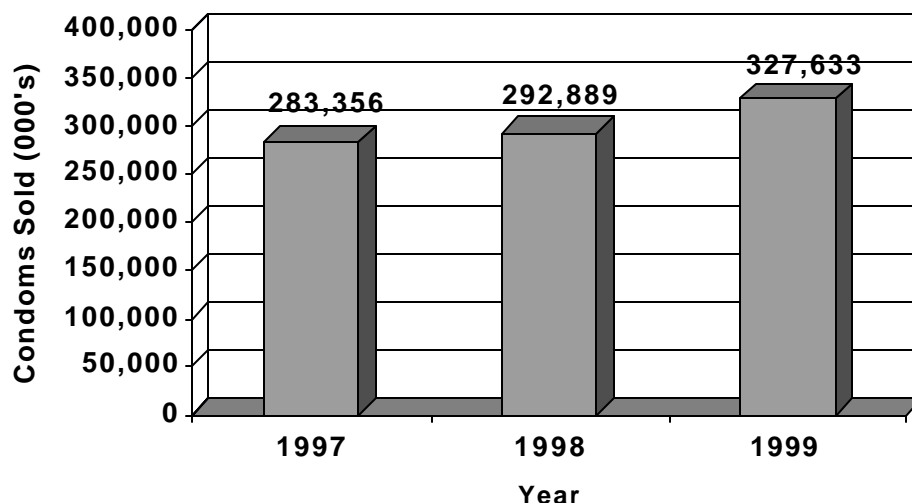
In addition, the expanded program increases support of HIV/STI surveillance systems to improve our understanding of the spread of the epidemic and to allow the assessment of the impact of interventions. Innovative initiatives are now underway to perform

operations research to identify “best practices”; to expand policy dialogue to include issues such as discrimination and resource allocation; to increase PVO/NGO capacity building; and to conduct targeted biomedical research. In collaboration with UNAIDS, USAID provides global leadership in the fight against HIV/AIDS as well as in supporting prevention and mitigation programs through its Global/Regional Bureaus and Missions.

The 1998 GAO report, *HIV/AIDS: USAID and UN Response to the Epidemic in the Developing World*, stated, “Despite the continued spread of HIV/AIDS in many countries, USAID has made important contributions to the fight against HIV/AIDS. USAID-supported research helped to identify interventions proven to curb the spread of HIV/AIDS that have become the basic tools for the international response to the epidemic.”

Since the beginning, USAID has focused most of its resources on sub-Saharan Africa, where an estimated 23.3 million people are infected. USAID also supports programs in South and East Asia, where

**Condoms Sold in Selected USAID-Supported Condom Social Marketing Programs**



Source: USAID program reports from sixteen country programs.

Figure 17

over 6 million persons are now infected, and in Eastern Europe and Central Asia, where, since 1995, the virus has “galloped” through drug-injecting communities and will soon enter the general population. USAID also supports programs in the Latin America and the Caribbean regions where HIV is spreading at a slower rate but gradually entering the general population in several countries.

### *Profiles of Successful Programs*

USAID is working in 46 countries around the world to achieve the following results:

#### ***HIV/AIDS Prevention***

Senegal has one of the lowest levels of HIV infection in Africa, and the program continues to focus its communication strategy for behavior change on fostering the adoption of safer sexual behavior and STI care-seeking among target groups. Results from the 1998 Behavior Surveillance Survey showed that the percentage of persons reporting condom use with non-regular partners during the last sexual act increased from 70% in 1997 to 88% in 1998.

In Brazil, USAID is providing technical assistance to implement the new national HIV/AIDS Prevention Strategy supported by a \$165 million World Bank loan. The Agency is also supporting a four-year \$1.5 million program to expand the availability of both male and female condoms to high-risk populations. In 1998, the program sold over 33 million male condoms and more than 200,000 female condoms.

In September 1999, USAID and the European Union completed a joint program assessment visit to Ukraine, which claims Eastern Europe’s most serious HIV epidemic. Both organizations have committed \$2 million to Ukraine over the next three years to support a major HIV/AIDS prevention program.

Since 1995, USAID has supported a model HIV/AIDS prevention program in Tamil Nadu state in India. The program is unique because it was the first wholly private sector approach to address AIDS in Tamil Nadu. It has focused on communication for behavior change, STI service delivery, and condom promotion among high-risk groups. Recent survey results, as shown in Figure 18, indicate increased condom use by men with their non-regular sex partners.

#### ***HIV/AIDS Care and Support***

As the HIV epidemic continues, the care and support of HIV-positive persons and their families has become increasingly important. In response, USAID is supporting several operations research activities

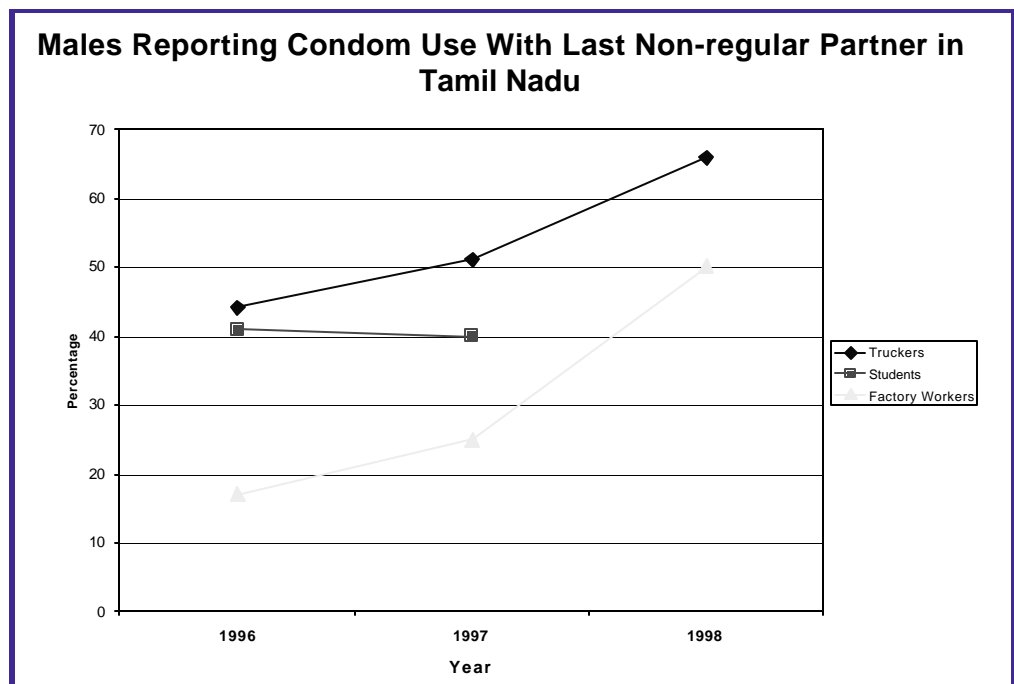


Figure 18

to identify the most effective models for providing the most appropriate care in resource-poor settings. The research will identify contextual constraints to care, operational issues related to the treatment of opportunistic infections, means of orphan support, and how best to mitigate the impact of the epidemic by preventing mother-to-child transmission of HIV through antenatal care, testing, treatment, and counseling.

Treatments to reduce mother-to-child-transmission (MTCT) are becoming increasingly cost-effective. At present, MTCT causes approximately 600,000, or 10%, of the 6 million new HIV infections annually. Of ten children born to HIV-infected mothers, about two are infected during pregnancy or delivery and one through breastfeeding. While antiretroviral drugs—first, AZT and, most recently, Nevirapine—can greatly reduce the transmission of HIV from mother to child, the interventions are still extremely expensive. In 1999, USAID devoted approximately \$3 million to develop new approaches to improve and reduce the costs of MTCT interventions and thus make them accessible to women and children in the developing world.

### ***Policy Analysis and Reform***

A strong and supportive policy environment is crucial to the implementation of programs that prevent the spread of HIV, support those who are infected, and mitigate the impacts of the epidemic. In addition to promoting the establishment of human rights and discrimination protections for HIV-positive individuals, USAID has supported HIV/AIDS policy development activities in 13 countries and has established an international database of HIV/AIDS policies and laws. At a recent workshop funded by USAID on building political commitment among the leaders of seven Francophone countries in Africa, the Minister of Justice of the host-country Benin spoke

publicly for the first time about the devastating impact of HIV. The President offered to become personally involved in future efforts to educate the public.

Over the last two years, USAID, in close collaboration with UNAIDS, provided technical and financial support to develop HIV/AIDS strategic plans for five countries in Central America. Honduras, Guatemala, Nicaragua, El Salvador, and Panama now have country strategies that will form the basis for increased coordination across borders in Central American and with Mexico. The expanded program will focus on prevention programs targeted to mobile populations that travel through Mexico between Central America and the United States.

### ***USAID's Global Leadership***

USAID continues to provide global leadership in developing improved interventions to prevent the transmission of HIV and to mitigate the effects of the epidemic on individuals and their families. USAID is making important contributions in the social marketing of male and female condoms, improved behavior change communication, second-generation sentinel surveillance systems, and the development of simple STI diagnosis and treatment protocols for use in low-resource settings.

In FY 2000, USAID will receive additional funding through both the President's LIFE (Leadership and Investment for Fighting an Epidemic) initiative and through bipartisan support from Congress - increasing the HIV/AIDS budget from \$125 million in 1999 to \$200 million. USAID will use these additional resources in 15 high emphasis countries to scale up prevention efforts, help the vast numbers of AIDS orphans, and provide pregnant women infected with HIV with access to new treatments to reduce transmission to their newborns.

## B. Infectious Disease Initiative

### *Background*

Over the past half-century, many in the U.S. came to think that the threats posed by infectious diseases were a thing of the past. Advances in the development and use of vaccines to prevent childhood illnesses, in drugs to treat disease, and in improved sanitation to manage environmental sources of contagion, all eased the burden of infectious disease in the developed world. Epidemics caused by plague, cholera, and influenza are now largely under control.

Over the past several years, however, the world has been forcefully reminded that the threat posed by infectious diseases to the security and well-being of the global community—developing and developed alike—remains real. During the 1990s we witnessed the re-emergence of diseases thought to be under control, such as malaria and tuberculosis, and the emergence of newly identified infectious diseases as well as of drug-resistant microbes. The causes of this public health threat include environmental changes due to urbanization and deforestation, migrations of populations in conflict and transition, and the evolution of microbes themselves often in response to inappropriate or incomplete use of antibiotics. The capacity of all nations to recognize, prevent, and respond to the threat of emerging and re-emerging infectious diseases is the critical foundation for a global response.

In 1998, in response to the increasing threat posed by infectious diseases, USAID—with the support of the U.S. Congress and in collaboration with the Centers for Disease Control and Prevention, the World Health Organization, UNICEF, nongovernmental organizations, and other international partners—launched a new Infectious

Diseases Initiative. USAID's strategy to address the threat posed by infectious diseases is targeted at contributing to strengthened capacity at the country level and is based on the premise that prevention of disease and its appropriate treatment within established health systems is a cost-effective and sustainable approach to infectious disease control. Waiting for an outbreak and employing massive resources to contain it should be a strategy of last resort rather than the first line of defense.

### *USAID's Strategy*

USAID's Infectious Disease Initiative builds on and extends the Agency's health portfolio, which traditionally has focused on the major killers of children—pneumonia, diarrhea, measles—and HIV/AIDS, to prevent and control the newly re-emergent threats posed by infectious diseases. The components of this strategy are:

- testing, improving, and implementing options for **tuberculosis control**;
- expanding new disease prevention and treatment efforts focused on **malaria** and other diseases of major public health importance;
- strengthening **surveillance** and data-based decision making and response capacity at the country level; and
- slowing the emergence and spread of **antimicrobial resistance**, with emphasis on the microbial threats posed by pneumonia, diarrhea, sexually transmitted diseases, tuberculosis, and malaria.

While the Initiative has four separate subcomponents, issues and interventions for addressing each subcomponent are closely interrelated as well as closely related to ongoing programs in other areas,

# USAID Child Survival and Disease Programs Fund Progress Report

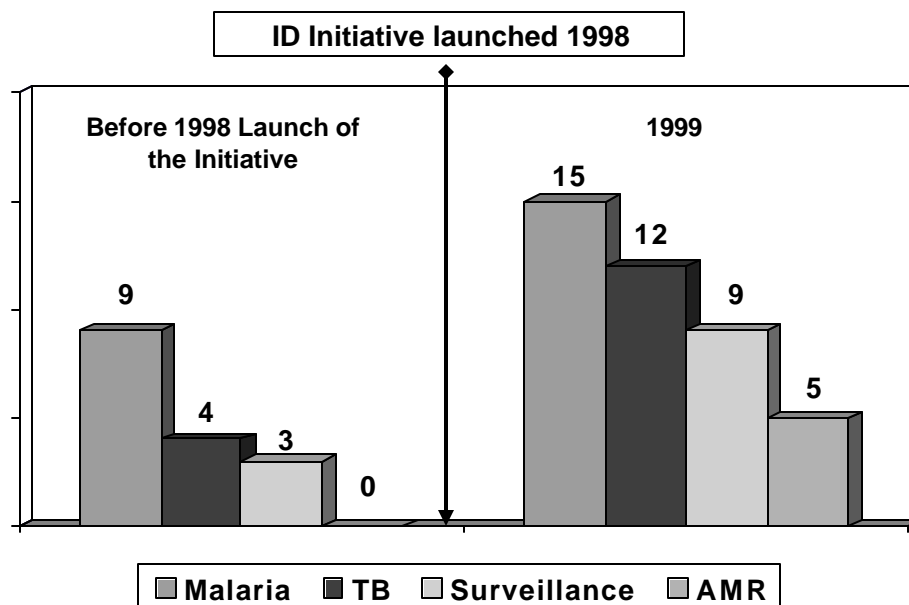
particularly child survival and HIV/AIDS. Antimicrobial resistance is a tremendous problem in TB and malaria control and a high-priority target for building surveillance capacity. Increasing antimicrobial resistance in pneumonia and diarrhea are also growing problems that threaten child survival efforts. While surveillance is not limited to TB, malaria, and antimicrobial resistance, it is a major component of these efforts. Wherever possible, USAID tries to build synergies among the components of the initiative, and implements new programs in a way that contributes to ongoing efforts.

The Initiative is currently being implemented in over 30 countries in the Africa, ANE, LAC regions, and the transition countries of the E&E region. As illustrated in Figure 19 below, the number of countries addressing each component of the initiative has expanded significantly since the initiative's inception.

## *Profiles of Successful Programs*

Significant progress has been made in each of the Initiative's four program areas during its first two years, especially with respect to policy reform; developing and promoting new strategies for infectious disease control; building infectious disease networks among U.S. government agencies, multi-lateral donors, NGOs, and other bilateral donors; and establishing new country-level infectious disease programs. Progress stems in large part from working on a number of fronts simultaneously and matching global and regional policy dialogues to country programs and needs. One example of the comprehensive approach supported by the Initiative is the effort that addresses the threats posed by the emergence and spread of drug-resistant malaria. In this example (see box on page 60) three of the four program areas covered by the Initiative—disease surveillance, antimicrobial resistance and malaria—are central to the activities carried out.

**Number of Countries That Have Infectious Disease Activities As a Result of the Infectious Disease Initiative**



Source: USAID Mission and Program Reports

Figure 19

## Tuberculosis

TB has been on the increase over the past decade, particularly in the developing world where growing urban decay, inadequate health care systems, the emergence of HIV, and the complicated nature of established TB screening, detection, and treatment have hampered progress in controlling the disease. Inadequate treatment and poor compliance have also led to the emergence and spread of multi-drug-resistant strains of TB, which are virtually untreatable and often fatal. Furthermore, the decreased immune response due to HIV infection has resulted in a resurgence of TB among millions in whom the disease has been dormant.

While the WHO-recommended strategy for controlling TB—Directly Observed Treatment, Short-Course (DOTS)—is highly effective, appropriate and effective implementation requires a functioning health care system to manage and monitor the required multiple contacts between a treatment supervisor and TB patients over a period of six to eight months. A functioning health care system is also a prerequisite for ensuring a steady and dependable supply of drugs and correct diagnosis and monitoring. Incomplete treatment can lead to the emergence of more widespread multi-drug resistance. What is required is a concerted, coordinated effort that expands country capacity for effectively implementing appropriate DOTS programs.

As a result of the initiative, USAID missions launched programs in El Salvador, India, Mexico, Peru, the Philippines, South Africa, and in addition to ongoing efforts in Russia and the Central Asian Republics. Further,

- USAID has played a major role in supporting the design and implementation of WHO's global "Stop TB" campaign. As part of the

### *Mexico and USAID's Collaboration Against TB*

In Mexico, USAID and the Mexican Secretariat of Health (SSA) have agreed to cooperate on the development of an institutional capacity to diagnose, control, and monitor tuberculosis. The effort calls for upgraded laboratory capacity, staff training, and improved treatment monitoring. USAID will partner with U.S. governmental agencies, international health organizations, and NGOs to assist the Mexican National Tuberculosis program in administering direct observation of a complete six-month (short-course) therapy to all new tuberculosis patients. The activity will also strengthen national and international referral systems.

The fight against tuberculosis brings together the Pan American Health Organization (PAHO) and the National Committee for the Fight Against Tuberculosis and Respiratory Diseases, a Mexican NGO. Mexico partners include the Secretariat of Health, Division of Prevention and Control of Mycobacteriosis and the Office for the Coordination of Epidemiological Surveillance; the Secretariat of Health-State Administrations and their TB Services; the National Institute of Epidemiological Diagnosis and Reference (INDRE); and the other members of the National Tuberculosis Prevention and Control Program - IMSS, IMSS-Solidaridad, and ISSSTE. In the U.S., partners include the Departments of Health in Texas, California, and other border states; Ten Against TB; the Centers for Disease Control and Prevention (CDC); U.S. NGOs such as Project Concern International and Project HOPE; the Gorgas Institute; and the International Union Against Tuberculosis and Lung Diseases (IUATLD).

campaign, a Global Strategy and Action to address the global TB epidemic is under preparation.

- With USAID support, in India's Tamil Nadu State a Model Center for TB Control, Training, and Research was established. The center delivers a comprehensive TB program to a population of 450,000. In addition, the lessons learned from the center's experience are expected to lead to new models for promoting effective TB control throughout South Asia.
- Strengthening of the global TB monitoring and surveillance network resulted in the publication of the 1999 and 2000 "Global TB Report."
- With major involvement from USAID, since 1997, the Government of Kazakhstan established a National TB program that focuses on implementing DOTS nationwide. As a result, TB mortality has declined 20% between 1998 and 1999.

## Malaria and Other Vector-Borne Diseases

Malaria kills millions—mostly children in Africa—and leads to economic losses of more than \$2 billion annually due to costs of treatment and lost productivity. Some of the central problems in effective treatment of malaria are appropriate recognition and correct diagnosis at the home and community levels (where most deaths occur), inadequate access to prevention measures, such as insecticide treated bednets and other materials; and lack of access to appropriate drugs and increasing resistance to the drugs that are available.

USAID's strategy to address malaria focuses on expanding the application of effective interventions including improved management of fever among children at home and at the health facility; improved prevention and treatment of malaria in pregnant

women; expanded access to and appropriate use of insecticide-treated bednets; and improved management of antimalarial drugs. USAID is also a small but important supporter of malaria vaccine research in collaboration with the U.S. Department of Defense, CDC, and NIH. A program to develop and field test malaria vaccines using DNA technology in a malaria endemic country was initiated in collaboration with the U.S. Naval Medical Research Center and medical institutions in Ghana.

Since the start of the Initiative, USAID's efforts have contributed to the following:

- As an active partner in WHO's Roll Back Malaria campaign, USAID has expanded its malaria control activities into 18 additional countries.
- Low-cost and reliable malaria diagnostics suitable for use at peripheral health facilities have been developed and readied for field use. The new diagnostics are an essential part of ensuring improved diagnosis of malaria.
- An African regional public-private venture promoting commercial distribution of insecticide-treated bednets was launched. Public funds will be used to increase awareness of and demand for bednet services while the private partner will provide nets at an affordable price. Expectations are that more than 30 million African children will be protected from malaria over the five-year life of the venture.
- New dengue control programs were launched in five countries, including Cambodia, the Philippines, the Dominican Republic, and Honduras.

## Building Surveillance and Response Capacity

Limited capacity of developing countries' health systems to routinely collect and use disease incidence and health status data is a huge impediment to improving health status and preventing and responding to infectious diseases. USAID's efforts are focused on building in-country capability to collect and use high quality information as the foundation for actions to prevent and control infectious diseases. To this end, USAID works in close partnership with WHO and CDC and other partners at the country level and with host country partners to build capacity at the country level for the collection and use of information. The Agency also collaborates in strengthening laboratories and improving the understanding of disease patterns and trends.

Some of the efforts supported by USAID include the following:

- With WHO's Regional Office for Africa, USAID developed a comprehensive strategy for strengthening African disease surveillance systems. In 1998, WHO/AFRO and CDC carried out assessments of surveillance in six African countries.
- With support from USAID to the National Health Information System, surveillance programs in Bolivia moved forward in improving the quality and reliability of health data.
- In late 1998, USAID began supporting the development of a surveillance system for the major vector-borne diseases affecting Nepal (malaria, kala-azar, and Japanese Encephalitis). Baseline assessments are now near completion, and training has been conducted on vector-borne diseases, laboratory capacity, and surveillance systems. As part of Nepal's

program, USAID is also strengthening the existing early warning and response system for major infectious diseases. Beginning in 2000, USAID will help the government of Nepal use the surveillance information to design intervention programs to reduce the burden of vector-borne diseases.

## Antimicrobial Resistance

Despite a poor understanding of all the factors contributing to increasing antimicrobial resistance as well as the factors' relative importance, we do know that one critical element is the widespread, often indiscriminate use of antimicrobial drugs. Such practice results from lack of access to appropriate drugs; weak regulatory authorities and drug policies; lack of access to accurate, unbiased, up-to-date drug information; incorrect diagnosis and inappropriate prescribing practices by both public and private sector providers, including drug sellers; substandard pharmaceutical products; poor patient compliance with prescribed drug treatment; and lack of public and provider awareness of the consequences of inappropriate drug use.

USAID's strategy to address these issues is to collaborate with WHO and other partners to establish a coordinated global approach; improve the understanding of the factors that contribute to antimicrobial resistance; enhance worldwide capacity to collect and respond to data on antimicrobial resistance and drug use; and work at the country level to put in place appropriate drug management approaches.

Progress has been achieved in the following areas:

- With USAID support, WHO started the development of a Global Strategy and Action Plan for anti-microbial resistance.

## *Slowing the Emergence and Spread of Drug-Resistant Malaria*

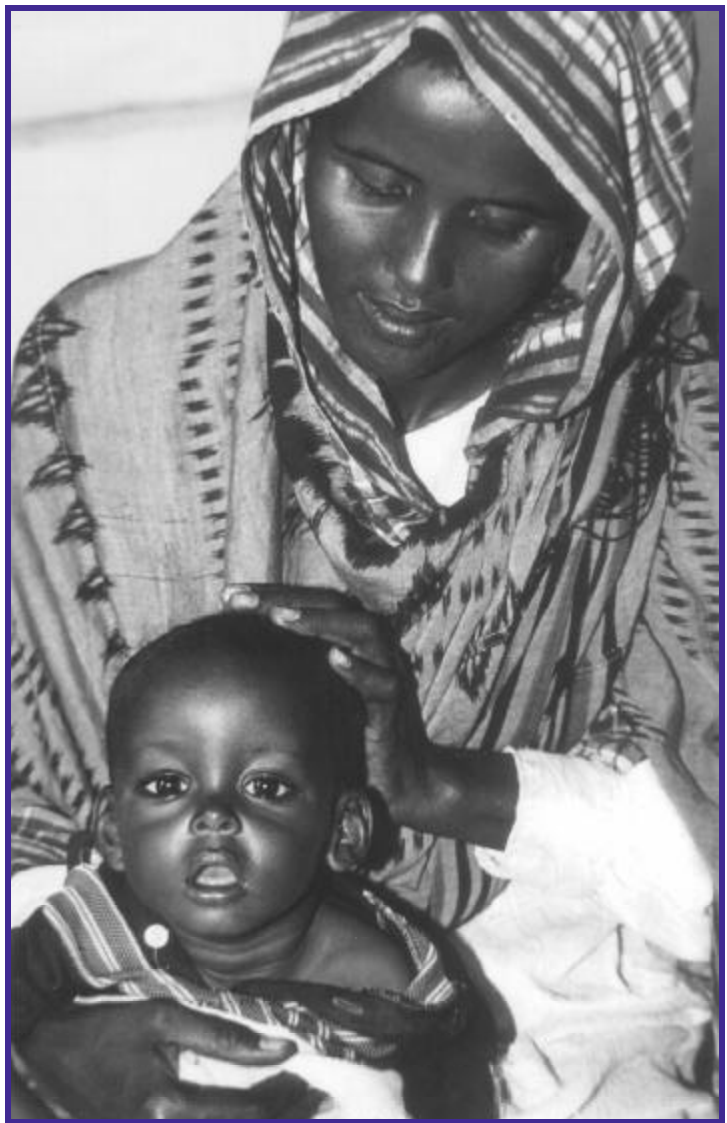
Since 1980, the most deadly form of malaria, *P. falciparum*, has rapidly developed high levels of resistance to the antimalarial drugs of choice. In Africa, where chloroquine had been an inexpensive and effective front-line treatment for malaria for more than 40 years, the spread of chloroquine resistant malaria across the continent since 1982 has contributed to a two to four fold rise in malaria-related hospital admissions and a two to three fold increase in malaria-related deaths. Over the past decade, we have witnessed an even more ominous deterioration of malaria status in Southeast Asia with the emergence and spread of new and even more lethal strains of malaria that are resistant to all major frontline treatments, including chloroquine, mefloquine, fansidar, quinine, and quinine-tetracycline. In both regions, the larger concern is the further spread of the drug-resistant infection and thus more extensive outbreaks.

Inadequate drug policies, lack of training opportunities for health providers in diagnosis and treatment, and poor public awareness of appropriate antimalarial drug use exacerbate the effects of drug resistance. The spread of drug-resistant malaria and the corresponding increase in deaths and cases of severe malaria have posed an especially difficult challenge to planners and policy makers.

Through its Infectious Disease Initiative, USAID has responded to the threat of drug-resistant malaria by promoting a multi-pronged approach that includes strengthening country-level capacities to conduct routine surveillance of antimalarial drug sensitivity; supporting the development of regional criteria for promoting a switch to alternative drugs; promoting national-level adoption and implementation of drug policies consistent with effective treatment; and promoting the development and field testing of alternative malaria drug therapies. Some accomplishments to date are the following:

- In Africa, 32 nations are now capable of routinely surveying for drug-resistant malaria, of these, 22 are part of a regional drug efficacy database collected by WHO.
- Kenya, South Africa, Ethiopia, and Botswana have used the data to institute new drug treatment policies over the past two years; another six countries are actively reviewing their treatment policies based on their surveillance data.
- Efficacy and safety clinical trials of three new promising multi-drug regimens designed to prolong the life span of antimalarial drugs and reduce overall treatment costs have been successfully completed; based on the results large-scale pilot trials of multi-drug therapies are underway in three African countries.
- In collaboration with WHO, USAID supported the establishment of a regional program to address the emergence and spread of multi-drug resistant malaria in Southeast Asia.

- Institutions in Bangladesh, India, and Nepal initiated surveillance activities to track anti-microbial resistance in organisms that cause pneumonia and diarrheal diseases, the two deadliest infectious diseases in the ANE region.
- With USAID funding, the International Centre for Diarrheal Disease Research, Bangladesh is operating a hospital-based surveillance system that tracks pathogens responsible for cholera, dysentery, and other diarrheas. Information is also collected on antimicrobial drug resistance. During the 1998 flooding in Bangladesh, the surveillance system was used to identify and monitor cholera and other diarrheal outbreaks, helping managers determine emergency needs for supplies and drugs.



## III. PVO Partnerships

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### *Background*

The PVO community is a key USAID partner in achieving effective and sustainable results in the area of child survival and other interventions. The USAID-PVO partnership has strengthened over time as PVOs have broadened their efforts from humanitarian relief to sustainable development programs and from direct service delivery to capacity building and institutional development of local partners. PVOs demonstrate the comparative advantage of working at the community level to facilitate and inform national health policies.

PVO partners achieve critical, measurable improvements in child survival by

- implementing effective interventions that are delivered at reasonable cost and therefore increase the potential for local sustainability;
- creating formal partnerships with local government, NGOs, and other community partners, thus strengthening local capacity at a time of broad decentralization of health services in many countries;
- planning for the financial and institutional sustainability of program benefits after the conclusion of project activities; and
- demonstrating viable and innovative strategies, methods, and materials that are applicable on a wider scale.

USAID uses three mechanisms to work with the PVO community to provide critical child survival interventions: mission-funded agreements, the PVO Child Survival Grants Program (CSGP), and other centrally funded agreements. USAID believes that any successful strategy to promote improved child

survival and disease control must involve community action, and the PVOs are poised to make that work.

### *USAID's Strategy*

The largest USAID PVO funding mechanism is the PVO CSGP, which is administered by the Office of Private and Voluntary Cooperation. This section of the report is focused on CSGP activities—other PVO activities are described throughout other sections of the report. Since 1985, this competitive grants program has enhanced the participation of U.S.-based PVOs and their local partners in reducing infant, child, and maternal mortality in less developed countries bringing life-saving and preventive health care to geographic areas with exceedingly high rates of infant and child mortality. The program has also strengthened the organizational, management, and technical capacity of U.S. PVOs and their local partners. The program is open to all PVOs that are registered with USAID and engage in community health care programming for children as part of their international development efforts. The Child Survival Grants Program places high priority on sites with under-five mortality greater than 100/1,000 and where poor maternal care, lack of water and sanitation services, and the scarcity and declining quality of health services contribute to high mortality from causes such as malaria, diarrhea, pneumonia, malnutrition, and vaccine-preventable diseases. PVOs work with local governments, nongovernmental groups, and communities to provide and improve services and education to address these problems in areas that are least served by existing health care services.

## Profiles of Successful Programs

In 1999, the PVO CSGP supported 29 PVOs with 72 projects in 32 countries, for a total life-of-program portfolio of \$65 million. FY99 funding provided \$16.6 million and supported 21 new programs. In 1999, USAID's CSGP grants achieved significant community-level impact in the areas of immunization and use of oral rehydration therapy for children with diarrhea. The projects shown in Figures 20 and 21 reached 851,393 mothers and children under five.

Additional PVO achievements in 1999 included the following:

- A child survival grant brought vital maternal and child health services to South Delhi, India. In an area with no public utilities or water/sanitation services and minimal access to any health facilities, a PVO and its partners opened maternal and child health

clinics and prepared community health guides to provide information about prenatal care, safe pregnancy, and childbirth. As a result, 96% of pregnant women in this area now receive prenatal care that is vital to the health of their infants. At the same time, the percent of births attended by a qualified health care provider has increased from 34 to 78%.

- In only three years, a child survival project in Kean Svay, Cambodia, has dramatically surpassed its goals despite tremendous obstacles, including a coup, floods, and epidemics. Through support to mobile health teams, the project has increased the proportion of fully immunized children from 60 to 94% in the project area. Vitamin A coverage among children increased from less than 1 to 61%, and use of oral rehydration therapy for cases of diarrhea increased from 12 to 81%. Ongoing

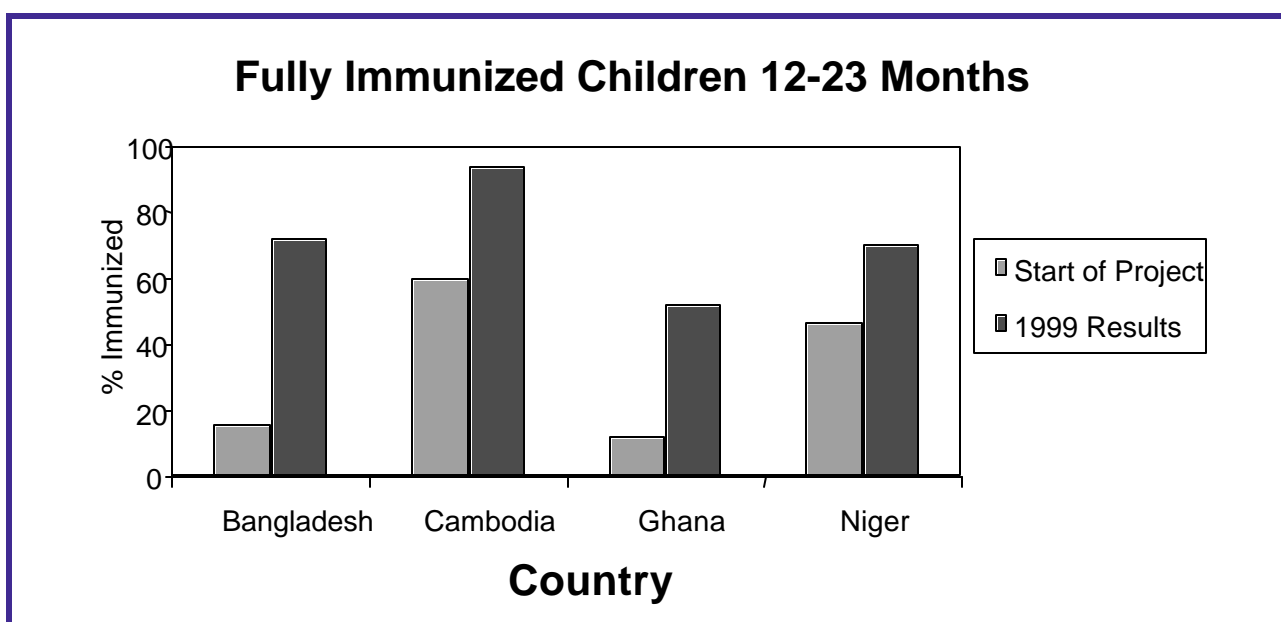


Figure 20

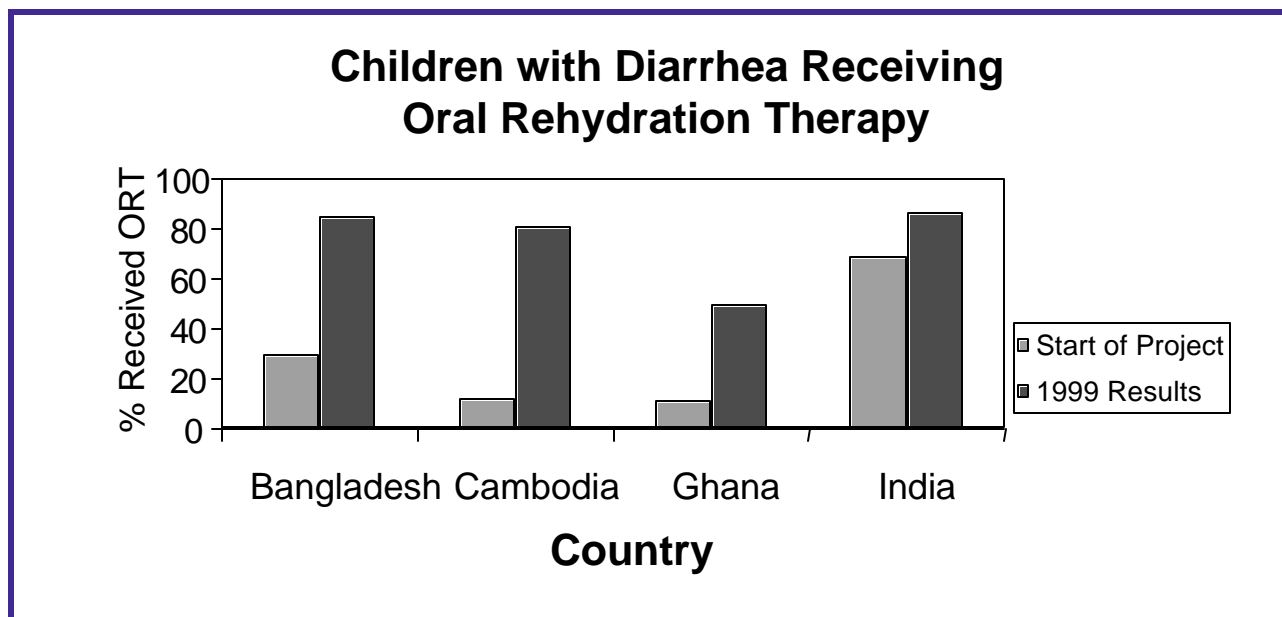


Figure 20

efforts are focused on ensuring that project activities and benefits will continue well beyond the end of the grant.

- The district of Siaya has Kenya's highest rate of child mortality due to high rates of malaria and pneumonia and a decline in the quality of health care services for children. A CS GP-funded project in the district has attained a 49% decrease in child mortality by using a ground-breaking strategy of working with community health workers (CHWs) to provide case management for common childhood illnesses. The result is more in more rapid care seeking, lower cost to families, and improved outcomes of illness.
- The Sylhet district is one of the lowest-performing areas in Bangladesh in terms of coverage of basic maternal child health services. A CS GP-funded PVO strengthened the capacity of the Ministry of Health and Family Welfare to provide the community with

high-quality and sustainable MCH services.

As a result, the percent of completely vaccinated children increased from 16 to 72%, the use of oral rehydration therapy for children with diarrhea from 30 to 84%, and the percent of children receiving high-dose Vitamin A capsules from 52 to 74%.

The PVO partnerships program provides critical leadership in integrated approaches to child health. The success of the program is attributable to rigorous requirements, capacity-building activities for U.S. PVOs and their local partners, and opportunities to collaborate with USAID's other child survival cooperating agencies to achieve the highest technical standards.

## IV. Basic Education

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### *Background*

Education is crucial to successful adulthood in the modern world. Without adequate education, children become adults with limited opportunities. Improved education leads to faster and more sustainable economic and social development and contributes to the emergence of strong democratic institutions.

Female literacy and schooling—particularly 5-7 years of formal primary education—have emerged as key factors for achieving gains in maternal health, child survival, agriculture, environmental protection, and economic growth, as well as in the development of democratic societies. Research demonstrates that investing in the education of girls may well yield the highest return available in developing countries. For example, the more education a woman has, the higher her age at first pregnancy which is associated with lower maternal mortality and higher child survival. Evidence suggests that under-five mortality falls for each year of parental education for the first 8–10 years of schooling.

Although primary school enrollments have increased worldwide during the last two decades, more than two-thirds of the children who never go to school, or who drop out before completing school, are girls. USAID works to expand access to quality basic education for girls and women and for other underserved populations.

In recent decades, most developing countries have made substantial progress in raising primary and secondary school enrollment rates and achieving basic literacy. However, many still have a long way to go to reach universal enrollment even at the primary school level. Moreover, the poor quality of basic

education in many developing countries reduces the benefits of attending school, contributing to high rates of grade repetition and high levels of school dropouts. In most regions, limited access and poor quality affect girls more than boys, leading to significant gender gaps in primary and secondary enrollment and completion.

The United States is committed to the target of full primary education by 2015, and USAID tracks progress toward this target in all the countries it assists. USAID also supports eliminating the difference between boys and girls' enrollment rates at the primary level. The objective is to reduce the gap in countries where USAID provides assistance.

### *USAID's Strategy*

Twenty countries in three regions—Latin America and the Caribbean, Africa, and Asia and the Near East—offer basic education programs.

In **Latin America and the Caribbean**, USAID is working with six countries where almost all children receive at least some primary schooling. This does not hold true, however, for Haiti, the region's poorest country, or for rural areas of Guatemala, especially for Mayan children, and Peru. Nonetheless the quality of basic education in most countries is poor; as a result, many children fail to master the basic language and mathematics skills necessary to function effectively in modern society. Poor quality is largely responsible for the high dropout rates that plague most countries in the LAC region.

In **Africa**, USAID is working with ten countries. A few African countries have high initial enrollments in primary school followed by high dropout rates. A

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substantial number of children do not even begin school usually because there is no school or the school is already overcrowded. Limited access to basic education is rooted in a variety of overlapping problems, including inadequate public funding of education and a tendency to spend a disproportionate share of the education budget on higher education. In many countries, rapid population growth and slow economic growth have made it even harder to provide adequate funding for basic education. Per pupil education spending in Africa declined during the 1980s and early 1990s. One result is low rates of school completion, particularly among girls.

USAID is assisting four countries in the **Asia Near East** region (Egypt, India, Morocco, and Nepal) whose economic, social, and educational development status varies widely. USAID basic education programs in the region concentrate on boosting girls' access to quality education and improving women's literacy.

## Key Program Elements

USAID programs in basic education seek to help countries with access and quality problems, particularly for girls and women. First, programs

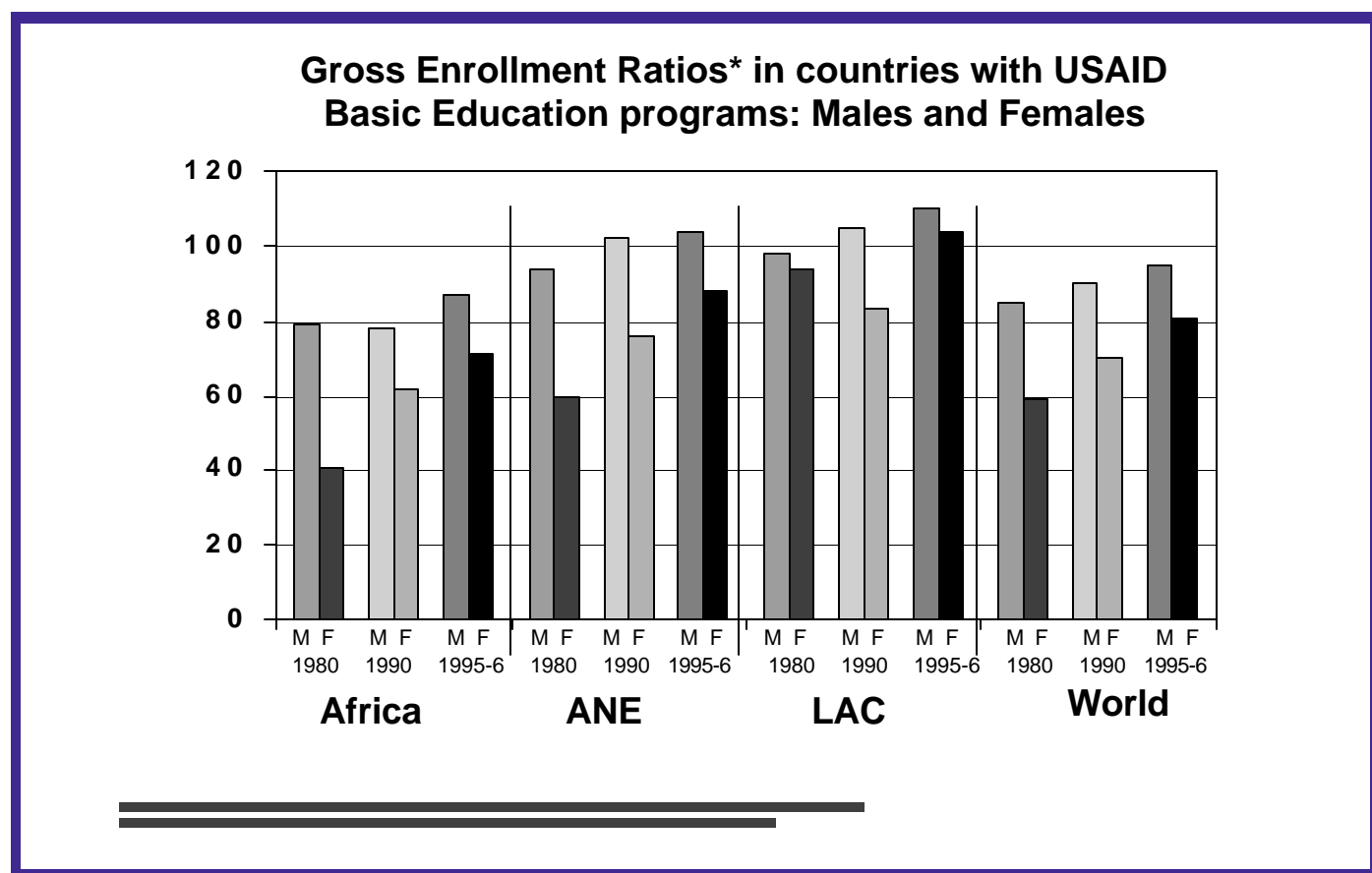
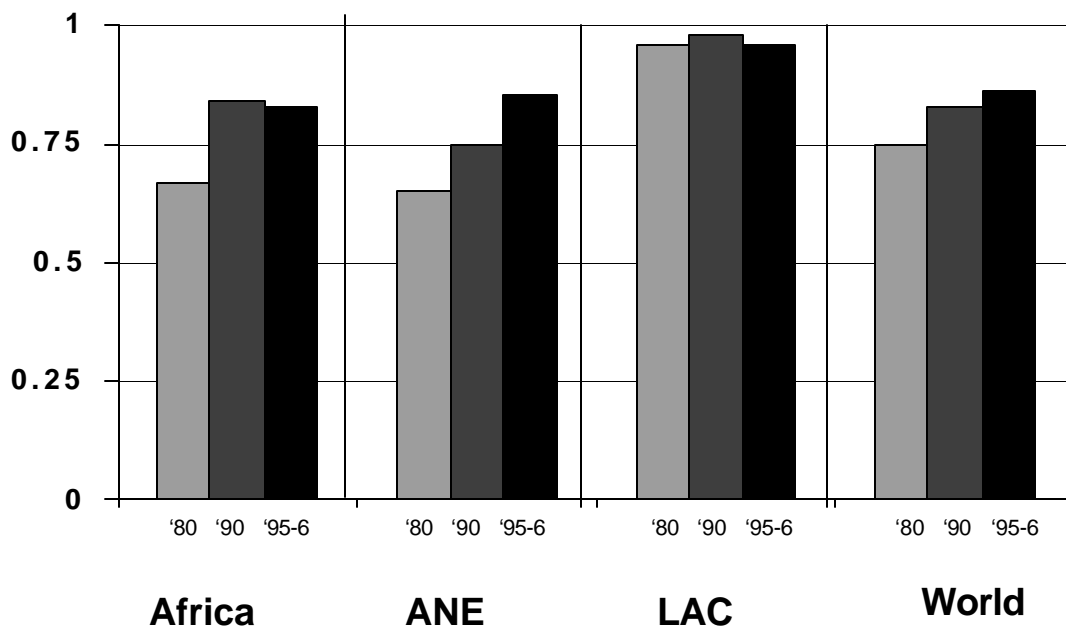


Figure 22

**Gross Enrollment Ratios (GER).** The above figure presents the weighted average, aggregated by region, of gross primary school enrollment ratios of countries with USAID basic education programs. The GER is the total number of children of any age enrolled in primary school divided by the population of children of primary school age.

### Gender Parity Index\* in Countries with USAID Basic Education Programs



Source: UNESCO education data accessible through the USAID Global Education Database

Figure 23

**Gender Parity Index.** The Gender Parity Index is calculated by dividing girls' GER by boys' GER and in the figure using weighted averages of primary school gender parity indices for countries with USAID basic education programs.

work with countries to develop and adopt policies to make education more accessible and equitable, and to improve quality. Second, USAID helps countries build institutional capacity to manage their basic education systems more effectively. Third, USAID promotes the adoption of improved teaching methods and encourages the use of improved educational materials and technologies, including specific interventions to increase girls' school participation. USAID also promotes distance education through radio and the Internet. Fourth, the Agency provides direct teacher training. Finally, USAID programs promote increased and more

effective community participation in educational decision making.

In Latin America and the Caribbean in 1998, USAID supported basic education programs in seven countries (El Salvador, Guatemala, Haiti, Honduras, Jamaica, Peru, and Nicaragua). Of the seven countries, Jamaica reported full enrollment as of 1992, and El Salvador is moving toward full enrollment by 2015. Nicaragua has recently experienced stagnant net enrollment rates and falls short of the required growth rate. Data needed from the other LAC countries for calculating the past

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decade's primary enrollment growth rate were incomplete.

Girls' enrollment rates overall in LAC are equal to or greater than boys rates in most countries. Only in Guatemala is there still a gender gap of more than 5% for primary school enrollment. In Honduras, Jamaica, and Nicaragua, the gender gap measures indicate higher gross primary enrollment rates for girls than for boys. In Haiti, the data are inadequate for accurately assessing the situation.

For the ten countries in Africa with USAID programs in basic education (Benin, Ethiopia, Ghana, Guinea, Malawi, Mali, Namibia, South Africa, Uganda, and Zambia), enrollment rates have been steadily increasing since 1990. Reporting available from the countries indicates that Namibia and South Africa are on track to reach their full primary enrollment target by 2015 and three other countries (Malawi, Uganda, and Zambia) have the potential to reach full enrollment by 2015 as well. Several countries (Benin, Ethiopia, Mali, Ghana, and Guinea) will need significant additional financial support to reach full enrollment by 2015.

The overall gender gap in the ten USAID-assisted programs in Africa declined from 28.1% in 1986 to 23.5% in 1996. The most successful African countries are Namibia and South Africa, with gender gaps of less than 5%. In almost all countries, the boy-to-girl enrollment gap is decreasing; the exception are Ethiopia and Zambia where the gap has increased to some degree in part because efforts to spur girls' school attendance also spurred boys attendance as well.

Of the four USAID basic education assisted countries in Asia and Near East (Egypt, India, Morocco, and Nepal), only Morocco reported sufficiently current

data to track net enrollment growth; it is on track toward full enrollment. Egypt had also recorded sufficient progress from 1993–1996 to reach the target.

The Asia and the Near East region also achieved a dramatic reduction in the primary school gender gap over the past decade. The regional gap average fell from 30.4% in 1986 to 20.8% in 1996. At the country level, the gap fell from 26 to 18% in India, from 35 to 24% in Morocco, and from 53 to 33% in Nepal. Despite this impressive progress, each country still has a long way to go to reach gender equity. Progress has been slower in Egypt, though the gender gap has been smaller there than in other countries of the region.

### *Profiles of Successful Programs*

**Community schools.** Throughout Africa, communities are increasingly involved in educational reform, particularly school management. With USAID assistance, communities in Ethiopia, Ghana, Guinea, Mali, and Malawi have formed committees of parents, teachers, and community leaders to evaluate and address the development and maintenance needs of local schools. Generally, community-supported schools have extended access to education while providing high quality education. Community schools frequently register lower dropout and repetition rates and higher promotion rates than government schools.

**Improved teaching methods and encouragement in the use of improved educational materials.** USAID has supported efforts of the Ministry of Education in Honduras to improve educational quality, including funding the development and adoption of improved textbooks and training of teachers in improved teaching methods. These efforts

contributed to a 280% increase in standardized test scores from 1990 through 1997. The improved quality helped boost the completion rates through the sixth grade, which rose from 55% in 1986 to 73% in 1997. For both measures, the gains achieved by girls exceeded those achieved by boys.

**Teacher training support.** In Jamaica, USAID supported teacher training and improvement in the primary mathematics curriculum and related teaching materials. The program helped train educational assessment coordinators for local primary schools and master mathematics teachers. Efforts helped boost performance of third-grade students on standardized tests by 4% in both 1996 and 1997, reversing a ten-year decline.

**Employment of distance learning technology.** In Honduras, the USAID program “Education for All” effectively uses distance learning techniques to reduce educational inequities and improve incomes. The program has helped out-of-school youth and adults complete their basic education by relying on radio and cassette instruction with texts and volunteer facilitators. The program provided 53,000 student-years of basic education in 1997. An evaluation concluded that students earned an extra \$40 a year for each year of the program they completed.

## V. Challenges For The Future

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In addition to the age-old killers of children, AIDS threatens to obliterate earlier gains made in child survival in Zimbabwe, Botswana, Malawi, and other countries with a large number of HIV-infected mothers. Maternal AIDS contributes to child suffering by increasing the number of orphans and the number of children born infected. Transmission of the HIV virus from mothers to their babies, mostly at the time of birth, currently accounts for 600,000 new infections a year. Prevention may require the use of anti-HIV drugs for pregnant women. Moreover, the far less significant chance of infecting children through breastfeeding poses a major challenge to efforts that promote breastfeeding in countries where infants most need it.

The 1999 GAO report, *Factors Contributing to Low Vaccination Rates in Developing Countries*, stated that while global immunization coverage has improved significantly since the mid-1970s, coverage rates are low for children living in the poorest countries. USAID's own analysis confirmed lagging and even declining vaccination coverage in many African and selected ANE region countries. USAID is addressing this problem through two new, related initiatives. USAID joined WHO, UNICEF, the private sector, and others in the creation of the Global Alliance for Vaccines and Immunizations (GAVI) to enhance national immunization programs and introduce newer vaccines in developing countries. In addition, USAID launched, in 1999, a new program to boost immunization systems in 15 USAID-assisted countries where progress is lagging.

In large parts of South Asia and Africa, 50 to 60% of children under five years of age are undernourished. Although programs such as Vitamin A supplementation target specific dietary deficiencies

to help address malnutrition, countries must nonetheless find better ways to feed infants and children. Promising pilot nutrition programs initiated by USAID need further testing, replication and scaling up if they are to have a national impact in countries.

Fundamental to the problem of improving children's health and combating diseases such as TB and malaria, is the fact that in many parts of the developing world health service systems do not yet have the capacity to sustain adequate basic curative and preventive care. Such care includes immunization services as well as treatment for diarrheal diseases, pneumonia, malaria, and TB. In countries with weak health care systems, saving children and controlling disease requires strengthening the delivery of basic health services and teaching families the elements of prevention and early recognition of the need for professional attention. Over the long term, it means helping countries make better use of their own health resources to meet the essential health needs of children and their families. The Integrated Management of Childhood Illness approach is a key strategy in building the capacity of health service systems.

Another major challenge is saving the world's most vulnerable citizens—newborns. Roughly half of all infant deaths occur in the first month of life, and most of these deaths occur in the first week. Many babies could be saved by simple interventions (warming of the infant, breastfeeding, recognition of severe illness, etc.); by improving the attention given to women during pregnancy, labor, and delivery; and by preventing or treating infections in newborns. Improving the health and nutrition of pregnant women

would also reduce the number of low birth weight children (below five and a half pounds at birth). An important challenge will be to define, confirm, and then implement simple interventions to address these problems.

USAID plans to address the following key issues:

- strengthening immunization systems in order to ensure a sustainable increase in vaccination coverage for the six traditional vaccines and to prepare for the introduction of newer vaccines;
- scaling up promising maternal and neonatal health interventions in order to have a national impact in selected developing countries;
- strengthening health care for children through expansion of IMCI to communities;
- reducing malaria in Africa through the expanded use of bednets, improving case management, and developing strategies to reach pregnant women with antimalarials to prevent malaria and anemia;
- testing, improving, and implementing options for TB control;
- completing the process of eradicating polio in a manner that strengthens immunization systems;
- expanding proven HIV prevention programs to cover more of the target populations in affected countries;
- accelerating research and development to address vaccine-preventable diseases;

- addressing nutritional deficiencies through micronutrient supplementation and fortification and scaling up pilot nutrition programs; and
- achieving full primary education enrollment by 2015 in USAID-assisted countries.

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## **ANNEX A**

**Country Case Studies**

**Africa Region: Zambia**

**Asia / Near East Region: Nepal**

**Europe & Eurasia Region: A Peer to Partnership Model**

**Latin America / Caribbean Region: Nicaragua**

## Zambia

Despite the recent economic challenges faced by many sectors of the Zambian economy, child survival activities continue to be robust and innovative, producing critical results for the country.

At the beginning of the decade, Zambia was experiencing rising infant mortality and child malnutrition rates as well as one of the highest HIV prevalence rates in the world. In 1991, the government of Zambia responded to these challenges with an ambitious program of health sector reform and decentralization. Later in the decade, USAID/Zambia developed a new integrated program of support to targeted health services.

USAID/Zambia has been instrumental in both the development of an integrated malaria initiative and the acceleration of the Integrated Management of Childhood Illness (IMCI) strategy. The malaria initiative supports distribution of insecticide-treated mosquito nets; early care seeking and improved household management of illnesses; and improved use of anti-malarials for pregnant women. Integrating the private sector into the marketing of mosquito nets led to more than 50% of households covered in six target communities.

Zambia was the first country in the world to implement the IMCI, whose objective is to upgrade the quality of case management by health workers. Approximately 50% of facility-based health workers in the initial five districts have now been trained in IMCI.

USAID/Zambia supports the Government of the Republic of Zambia (GRZ) in strengthening child immunization programs. Zambia implemented its first round of sub-national immunization days in 34 districts in 1998, resulting in overall coverage for polio

vaccine of 96%. With the integration of measles vaccine into national immunization days, measles vaccine coverage achieved 81% in four urban districts.

Zambia suffers from one of the highest HIV/AIDS prevalence rates in the world; that rate shadows every aspect of Zambian society. It is estimated that over 700,000 children are either infected or affected by HIV/AIDS. Over 500,000 children are orphaned due to HIV/AIDS. USAID has assisted the GRZ in responding to this devastating and pervasive disease through prevention activities. Recent surveys show a decrease from 28% in 1993 to 15% in 1998 in HIV prevalence rates among 15 to 19 year olds in Lusaka. Grants to NGOs made possible increased access and quality of services to 40,000 clients in remote high-risk areas.

Zambia has one of the most successful Vitamin A supplementation efforts in sub-Saharan Africa. In 1999, the nation achieved a 90% coverage rate of Vitamin A capsules in 38 districts.

Zambia is the first sub-Saharan African country to fortify all domestically produced sugar with Vitamin A. Sales of fortified sugar have increased by 15% since program inception in May 1998. The fortified sugar currently reaches an estimated 50% of the population; market expansion is expected through intensified advertising efforts. The impact of the fortification is estimated at 7,500 Zambian children under five years saved each year and improved health status of many more children and mothers. USAID's contribution to the effort include: developing fortification legislation, conducting market research of consumer consumption patterns, establishing quality control mechanisms, and leveraging other donor funds. The successful experience has led to

further USAID assistance in the private sector with several new products.

USAID/Zambia child survival assistance is integrated throughout the mission's overall development strategy. USAID developed a school health program that focuses on the delivery of micronutrients to school-age children and strengthening community education opportunities. Microcredit programs provide income-generating opportunities for families caring for orphans.

USAID/Zambia works closely with other cooperating partners on their integrated development activities in health, education, and microcredit. Under the U.S./Japan Common Agenda, USAID and JICA have developed collaborative activities in ten technical areas, including EPI/polio surveillance, school health and nutrition, water chlorination, and malaria control.

USAID and its collaborating partners remain committed to supporting the GRZ reform effort. The mission expects an increase in vaccination coverage and improved health worker skills. Future health initiatives will include an expanded malaria effort, private sector/NGO strengthening, targeting of high-risk HIV/AIDS risk groups, and expanded HIV/AIDS voluntary counseling and testing services.

## Nepal

USAID/Nepal has a comprehensive child survival program including interventions addressing Vitamin A and other aspects of nutrition, diarrheal diseases, acute respiratory infections (ARI), the Integrated Management of Childhood Illness (IMCI) strategy, polio eradication, safe motherhood and control of infectious diseases. The breadth of the child survival program and its accomplishments in recent years have made it an outstanding performer among USAID Missions. The USAID program can point to significant achievements in the last year: sustained high coverage levels for vitamin A capsule distribution, successful expansion of pneumonia case treatment by community volunteers and a major new agreement on infectious diseases with the Government of Nepal.

The National Vitamin A Program contributes to the reduction of Nepal's high infant and child mortality as well as widespread vitamin A deficiency. Expanding steadily since 1993, the program is now providing twice-yearly high-dose capsule supplements to some 2.25 million children from 6 up to 60 months of age in 53 of Nepal's 75 districts. This program has been called the best of its type in the world. Capsules are primarily delivered by more than 23,000 USAID-trained female community health volunteers (FCHVs). FCHVs are the anchor for sustainable high coverage. The initiative and dedication of these unpaid and often illiterate volunteers have helped to ensure that all eligible children are registered and that each child gets a correct dose.

High coverage has been maintained on a consistent basis, with a population-weighted average of 94% during 1998-99. Districts incorporated 5-6 years ago during early phases of the program receive little

outside assistance yet continue to demonstrate high coverage – important and encouraging evidence for sustainability. A study conducted last year by UNICEF and the Canadian Micronutrient Initiative independently confirmed these outstanding coverage levels.

How much impact is the National Vitamin A program having on children's health in Nepal? Two large community studies conducted in the mid-western hills and eastern terai (lowlands) of Nepal found mortality reduced by 26-30% in children from 6 up to 60 months of age. Based on these findings, the current program is estimated to avert 25,000 child deaths each year.

USAID has also taken the lead in expanding life-saving community-based pneumonia treatment. The National CDD/ARI/IMCI Program contributes to the reduction of high infant and child mortality and particularly to Nepal's still high diarrhea and pneumonia mortality. The program supports improved diarrhea case management in all 75 districts and strengthens ARI case management in 14 districts, where IMCI training is also being introduced. Four USAID-supported international NGOs (Save the Children/US, CARE, PLAN, ADRA), working with the MOH, have helped to expand the program faster than anticipated in five of these districts.

Improved access and quality of services is stressed, with FCHVs being trained to provide effective care at the community level. Access has been sharply increased. Studies show that typically only 17-18% of pneumonia cases ever reach a health facility but, with the community-based program, 46% of cases are now being treated. The knowledge and skills of the FCHVs are remarkably high, e.g., more than 90%

of them know the correct antibiotic dose for two different age groups. FCHVs are distributing ORS packets on a wide scale, exceeding targets. FCHVs who knew all three home rules for managing diarrhea jumped from 21% in 1994 to 78% in 1998.

A USAID study of the Nepal Safe Motherhood Network completed in March 1999 found the Network to be a model for other countries seeking innovative ways to address the crisis of maternal and neonatal deaths. The Network is comprised of more than 70 local and international NGOs, private organizations, government agencies and donors. These organizations work together to achieve the Network's goal "to improve the status of women by contributing to safe motherhood through advocacy and awareness creation." Funding for the Network comes from diverse sources including mother's clubs and a cement factory. Member organizations contribute from their own budgets as well. Since 1996, an estimated 500,000 Nepalese women and their families in all 75 districts have been reached through Network activities.

USAID's infectious-disease program was launched in May 1998—the first field mission program of its kind under the new earmark. The program confirms a joint commitment of USAID and the government to strengthen surveillance of both selected infectious diseases and antimicrobial resistance, to improve prevention, treatment and control practices and to promote regional cooperation to further these efforts.

## Europe and Eurasia: A Peer-to-Peer Partnership Model

Throughout the former Soviet Union, USAID often addresses child survival issues through the broader context of reforming specific aspects of the health care delivery system. Such an approach reflects the existing environment whereby countries in the region inherited comprehensive yet decaying health systems that were denied access to major scientific breakthroughs developed outside the Soviet Union. Consequently, child survival issues and the approaches used to address them frequently differ from those in other regions where USAID provides assistance.

A prime example is USAID's approach to addressing neonatal mortality. In stark contrast to other regions, 98% of births in the region occur in hospitals; however, the lack of basic neonatal resuscitation skills and modern newborn care practices has resulted in a high number of hospital-based neonatal deaths. In 1994, USAID initiated an innovative peer-to-peer partnership model to reduce neonatal mortality. Partnerships are developed between health care facilities in the U.S. and the recipient country. Medical updating, education, and technical assistance are provided through the U.S. contribution of time and equipment, significantly funded by volunteers. For every U.S. dollar spent on a partnership, an additional three U.S. dollars is generated by means of contributions from the U.S. and recipient-country partners.

The partnership program has developed a successful Neonatal Resuscitation Training Center model under the auspices of the Detroit/L'viv, Norfolk/Moscow, and Chicago/Tashkent partnerships in conjunction with the ministries of health in Ukraine, Russia, and Uzbekistan. The training centers provide health care professionals with a set of basic skills in newborn

care that are standard practice in delivery rooms in the United States and Western Europe. The techniques are readily adapted to the level of available equipment.

In Russia and Ukraine, mortality rates have declined as a result of the neonatal resuscitation partnerships. Between 1994 and 1998, the neonatal mortality rate dropped by 50% in two Russian facilities. In L'viv, Ukraine, a regional model for improving newborn care was developed and led to a decrease in the regional infant mortality from 16.3 per 1,000 live births in 1996 to 13.4 per 1,000 live births in 1998. The survival rate for very low birth weight infants in maternity hospitals increased from 72.6% in 1996 to 84.2% in 1997 while the mortality rate in neonatal units dropped from 13.6% in 1996 to 11.9% in 1998. Currently, the model is being expanded into four additional regions of Ukraine.

Interest in the neonatal resuscitation-training program has expanded throughout the past few years and led to:

- over 4,000 medical professionals in the New Independent States successfully completing the neonatal training course;
- 14 countries that developed neonatal resuscitation training centers;
- regional neonatal intensive care systems developed in Ukraine and Slovakia; and
- Russia's development of a comprehensive maternal and child health strategy in response to the program.

USAID supported regionalized perinatal care in Kosice, Slovakia which has reduced early neonatal mortality from 5.1 per 1,000 live births in 1997 to 3.0 per 1,000 live births in 1999. Eliminating unnecessary pharmaceuticals reduced the cost of antibiotics per newborn from \$117 in 1995 to \$3 in 1999. The success of the partnership model is continuing to be demonstrated throughout the health sector as well as through community based programs.

## Nicaragua

Nicaragua remains the second-poorest country in the Western Hemisphere. Still recovering from ten years of civil war, the nation has made considerable progress establishing sustainable democratic institutions and strengthening its economy. However, progress on the economic front in 1998 was temporarily halted by the devastating impact of Hurricane Mitch. As part of its development package, USAID/Nicaragua administers a comprehensive child survival program that involves implementation of a full range of child survival activities with strong PVO involvement.

Diarrhea is the second most common cause of mortality in Nicaragua. In FY99, USAID-funded U.S. PVOs worked in the departments of Boaco, Matagalpa, and Jinotega to reduce infant mortality from diarrheal diseases, focusing on preventive health care, recognition of signs of illness, and proper use of oral rehydration therapy. PVOs address diarrhea as a priority problem in the central and mountainous part of Nicaragua. Their data indicate that, in the areas where they are working, 80% of the population can identify dehydration signs compared with 35% in 1996, and that 62% of mothers give ORS to their child during an episode of diarrhea compared with 54% in 1993. USAID support for diarrheal disease control contributed to a reported 46% decrease in mortality due to diarrhea in children under five during the first nine months of 1999 compared with 1998.

Thanks to USAID support, Nicaragua's Ministry of Health (MOH) and local sugar producers reached an agreement to fortify sugar with Vitamin A. Under the landmark agreement, which took three years to negotiate, fortified sugar will be available to the public as of January 2000. USAID participated actively as a permanent member of the National Micronutrient Commission, working to promote public and private sector collaboration in sugar fortification. The Agency

has leveraged participation from other donors, drawing in support from the Canadian Micronutrient Initiative and over \$1 million from the Nordic Fund through the World Bank for the purchase of Vitamin A fortificant. The MOH will create a revolving fund from fortified sugar proceeds to cover fortification costs and guarantee sustainability.

With USAID support, the MOH supported supplementation with Vitamin A for children six months to five years through twice-a-year health rallies. During the first National Health Campaign in 1999, 82% of children received Vitamin A supplements. With technical assistance from USAID, the Ministry of Social Action launched a media campaign in 1999 to increase demand for supplements and to promote the consumption of micronutrient-rich foods. The two initiatives will substantially reduce Vitamin A deficiency in the Nicaraguan population.

Another focus of child survival programs in areas targeted by PVOs has been the systematic training of women of reproductive age in the importance both of prenatal care and exclusive breastfeeding by PVOs. According to PVO data, the percent of pregnant women in the target areas who underwent at least one prenatal visit in 1999 was 54%, up from 48% in Boaco and Jinotega. During FY99, a significant increase in exclusive breastfeeding was noted and is currently at 34% up from 11.5% in 1993. This outcome is the result of USAID support for local health districts, home visits by health personnel, and referrals to health units.

With the help of USAID in a wide range of child survival activities, infant mortality in Nicaragua dropped by over 30% in five years, from 58 deaths per 1,000 live births in 1993 to 40 in 1998.

## **ANNEX B**

### **Regional Profiles of Child Survival Activities : 1997–1998**

**Africa**

**Asia / Near East**

**Europe and Eurasia**

**Latin America and the Caribbean**

## Africa: Progress amid Increasing Challenges

### *USAID-Assisted Countries*

#### **East Africa**

Eritrea, Ethiopia, Kenya, Madagascar, Rwanda, Somalia, Tanzania, Uganda

#### **Southern Africa**

Angola, Malawi, Mozambique, Namibia, South Africa, Zambia, Zimbabwe

#### **West Africa**

Benin, Democratic Republic of Congo, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal  
Family Health and AIDS Prevention/West and Central Africa: (non-presence countries)  
Burkina Faso, Cameroon, Cote d'Ivoire, Togo

The potential for economic development in sub-Saharan Africa is greater now than at any time in the past quarter-century. With the continuing spread of democracy, a new generation of leaders appears more responsive to the needs of the population. Although civil strife still plagues many parts of the continent, several long-running conflicts have ended, sparking hope for greater political and economic stability.

Some of the progress achieved to date is attributable to USAID. In USAID-supported areas of Ethiopia, Madagascar, Nigeria, and Zambia, immunization coverage is improving. In 1998, USAID-supported campaigns for polio eradication through national immunization days (NIDs) had remarkable success in reaching at least 80% of children in each of 27 sub-Saharan countries. USAID has supported programs that focus on improving nutritional levels among children and mothers through micronutrient supplementation, food fortification, and the encouragement of improved nutritional behaviors such as exclusive breastfeeding and preparation of enriched weaning foods.

In general, African governments are responding more quickly to the threat of epidemics. The duration of epidemics has decreased in several countries, along with case fatalities. Twenty-three countries now report epidemic-prone diseases, such as cholera and meningitis, within 48 hours of the first case diagnosis. Two-thirds of countries in the region have a budget line for epidemic preparedness and response.

Unfortunately, increases in infant and child mortality threaten fragile gains. Recent Demographic and Health Surveys in six African countries found that mortality in children under five had increased in four of the six countries: Cameroon, Côte d'Ivoire, Burkina Faso, and Kenya. Despite the specter of HIV, analyses funded by USAID show that for now these increases in mortality are mostly in the first year of life, when a decline in basic health services is more likely than HIV/AIDS to be the cause. Immunization and malnutrition rates also show declines and thus contribute to higher mortality levels. In East and West Africa, immunization rates have declined in several countries. The percent of children stunted or underweight—in some countries the majority of children are stunted or underweight—has not declined

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significantly; in three of the surveyed countries, malnutrition rates had even increased.

Africa's children continue to face enormous health problems. More than 85% of the world's malaria and 90% of malaria-related deaths occur in Africa. Infants and children are particularly vulnerable, with malaria responsible for one-third of child deaths overall. Acute respiratory disease in the form of pneumonia is responsible for 40% of child deaths in Africa, with nutritional deficiencies contributing to mortality as well.

Infectious disease in Africa is also affecting children and their families. Tuberculosis is on the rise, driven in large part by the HIV epidemic. In many African countries, in fact, the HIV/AIDS epidemic has reversed gains made in life expectancy and infant and child mortality. Weak health infrastructures, lack of political commitment, civil strife, and political unrest all contribute to the difficulties in achieving sustainable progress and challenge the abilities of USAID and its donor partners to focus on achievable goals.

## *Strategies and Programs*

USAID works closely with the WHO/African region office and UNICEF in coordinating child survival and health strategies in Africa. Given that only half the population enjoys easy access to health care, community-based approaches and integrated health service delivery are two of the strategies used to reach those in need of health care and information. Regional approaches have also proven effective in Africa, particularly with regard to developing and implementing strategies for polio eradication and prevention of malaria. Examples of promising national and regional programs included the following:

- In the southern Africa region, USAID helped develop and launch an Integrated Malaria

Initiative. The initiative supports the accelerated implementation of the IMCI, the distribution of insecticide-treated mosquito bednets, improved household management of the illness, and improved use of antimalarials for pregnant women.

- USAID supports the vitamin fortification of salt and sugar in several African countries. Nearly 95% of salt is iodized in Eritrea, contributing to declines in iodine deficiency. A major effort to fortify sugar with vitamin A in Zambia has been successfully initiated.
- The use of oral rehydration therapy (ORT) for diarrheal diseases is increasing in some countries in sub-Saharan Africa. In Niger, for example, only 23.9% of children with diarrheal diseases received ORT in 1992; by 1998, the figure had jumped to 64.4%.

Following WHO guidance and in collaboration with WHO, the Africa region has pioneered the Integrated Management of Childhood Illness approach to child health. The IMCI includes not only improved training for health care providers but also strengthens logistical and pharmaceutical capacity and focuses on community support. In 1997, Zambia was the first country to train staff and implement the IMCI. Before the training, only 45% of health workers correctly treated children with fever; after the training, 74% provided correct treatment. By 1997, ten countries in the region had implemented IMCI strategies, USAID and other donors continue to promote the approach.

**Polio Eradication.** By the end of 1998, all countries in Africa, with the exception of the Democratic Republic of Congo and Sierra Leone, had conducted at least one complete round of national immunization days (NIDs), resulting in over 80% of African children immunized against polio. With low routine immunization levels persisting in many countries, additional rounds of NIDs and house-to-house

campaigns are urgently needed if the Africa region is to interrupt polio transmission by the end of 2000, or shortly thereafter. A social mobilization communication strategy for polio eradication, specifically tailored to the African sociocultural context, was launched throughout Africa in 1998.

**Sustainability.** In addition to encouraging countries to shift greater portions of their budgets to health care, USAID promotes innovative methods of increasing resources at the community level through community-based insurance schemes, imposition of cost-sharing user fees, and training of health managers in methods of controlling cost. In Kenya, public sector cost-sharing is now generating about \$10 million annually and is a critical source of funds for improving the quality of preventive services, hospitals and rural clinics.

The decentralization of health services that is occurring in many USAID-assisted African countries has the potential to interrupt or reduce the provision of health services, including essential child health services such as immunization, at the district and community levels. USAID is working with ministries of health and African governments to reduce potential problems during the transition to decentralization. In Senegal, three health districts raised \$300,000 in local tax revenue to finance the health system. In Rwanda, three health districts have formed community associations to implement a prepayment/social insurance scheme in partnership with the public health system.

In addition to the involvement of private sector businesses, partnerships with private voluntary and nongovernmental organizations are critically important for expanding services and for working with local and district health providers. In rural Mozambique, USAID-funded private voluntary organizations

worked with the Ministry of Health to train community health workers in teaching about prevention and treatment of diarrheal disease, respiratory infection, and malaria, and educating households about the importance of sanitation, hygiene, nutrition, and immunization. Areas with trained health workers saw an increase in immunization coverage, exclusive breastfeeding, and ORT use. In Benin, the number of ORS packets distributed increased 33% in one year due to the improved services offered by trained community health workers.

### *Challenges Ahead*

In Africa, improving child health remains a major challenge. Sub-Saharan Africa is undergoing serious structural changes, such as decentralization, liberalization of the private sector, and a shift away from donor-supported projects to sectorwide approaches. Governments are finding improved results when they approach health needs through integrated and coordinated strategies. The IMCI approach will continue to be emphasized and strengthened. We also know that 80% of child deaths occur in the home and that decisions to seek care for children with illnesses such as pneumonia and malaria are made in the home. For this reason, USAID in Africa will continue to focus on raising family and community awareness of preventive health practices and early care seeking at health facilities.

Interruption of polio transmission by 2000, or shortly thereafter, will require significant effort. USAID and its donor partners are helping governments establish and strengthen the disease surveillance systems that are critical in identifying the last cases of polio and laying the foundation for tracking other diseases.. Extra NIDs, as well as house-to-house immunizations, will need to be conducted to stop the chain of transmission.

## Asia and the Near East: Continued Progress Despite Population Growth and Financial Crisis

### *USAID-Assisted Countries*

Bangladesh, Cambodia, Egypt, India, Indonesia, Jordan, Morocco, Nepal, Philippines, West Bank/Gaza

HIV/AIDS threatens every aspect of society and requires a societal approach to alleviate its effects. Maternal education and prevention will go far to reduce mother-to-child transmission. Resources must be found to mitigate the effects of the disease and provide medication to reduce the likelihood of transmission.

Until a vaccine is available, the best prevention efforts for malaria include expanding the use of insecticide-treated bednets and antimalarials for pregnant women and promoting community advocacy and knowledge regarding disease prevention.

The Asia and Near East region spans more than half the globe and, even excluding China, contains more than 50% of the developing world's population and the majority of the world's poor. It is economically, politically and culturally diverse, encompassing some of the fastest-growing and poorest countries in the world.

Despite significant overall gains in reducing child mortality and fertility, parts of the region are still characterized by high infant and under-five mortality, rapid population growth, high maternal mortality, high rates of malnutrition, and the rapid spread of HIV/AIDS. The magnitude of sheer population numbers, especially in Asia, speaks to high mortality and morbidity. For example, more than 50% of all infant

and child deaths in USAID-assisted countries worldwide occur in Asia; half of the world's malnourished children live in South Asia; half of maternal deaths take place in ANE countries, with 70% of those occurring in India; and the HIV/AIDS epidemic is spreading faster in some Asian countries than elsewhere.

Nevertheless, impressive achievements are evident. Fertility and mortality are steadily declining, and quality of services is improving—often driven by public demand. Child survival programs have dramatically reduced infant and under-five mortality through a combination of interventions, including immunization, vitamin A supplementation, and treatments for pneumonia and diarrheal disease. Education levels for women are increasing slowly although USAID policy initiatives have encouraged more active participation of both private and NGO providers. Programs are increasingly integrated; the private and NGO sectors are becoming more active as host governments assume greater responsibility, leading to more sustainable programs.

### *Strategies and Programs*

Nearly three-quarters of deaths among children in the ANE region are infants under one year of age, with a high percent of those deaths occurring in the first month of life. More attention to maternal health

could significantly reduce the number of deaths. USAID programs are increasing the focus on infant mortality by improving the health and nutritional status of women and young girls before they become pregnant, by educating communities on the importance of prenatal and postnatal care, and by helping communities to recognize danger signs for pregnant women and sick children.

Egypt is an example of a country which has succeeded in rapidly reducing infant mortality through strong immunization programs. Egypt has maintained a fully immunized child level of 85% since 1990. Infant mortality in Egypt dropped from 121 deaths per 1,000 live births in 1980 to 52 in 1997. Aggressive tetanus toxoid (TT) immunization programs for pregnant women have contributed to the decline. By 1998 TT coverage was approaching 80% of women in Egypt.

In Bangladesh, an ongoing NGO gardening and nutrition education project is showing favorable results. The goal of the project is a sustainable reduction in vitamin A deficiency through the production, consumption, and sale of vitamin A-rich fruits and vegetables. Nutrition education is an important project component. A recent study found that the vitamin A status of families with home gardens is nearly equal to that of families receiving supplements. USAID-supported child survival activities in Bangladesh, including a strong urban immunization program, have contributed to a reduction in infant mortality from 117 per 1,000 live births in 1981 to 82 in 1997.

Polio eradication is another ANE region priority. In back-to-back national immunization days in December 1997 and January 1998, a coordinated campaign in nine Asian countries succeeded in immunizing 250 million children. Indonesia, with an

active and effective surveillance system in place and nationwide community awareness of the Polio Eradication Initiative, is one of the first countries in the region to report no cases of polio since 1995.

### *Challenges Ahead*

**Growing Populations.** Even when fertility is reduced, earlier periods of high fertility result in a large increase in the number of youth entering reproductive age over several decades to come. In USAID-assisted countries alone, the number of young people aged ten to 19 will increase from 314 million in 1998 to nearly 660 million in 2025, challenging health systems and the ability of governments to provide adequate services in all sectors. Governments will need to rely increasingly on the private sector and the ability of the population to pay for services. Indonesia is already experiencing the need to provide family planning and health services to 10 million additional couples entering reproductive age each year over at least the next decade.

**Maternal Health.** Maternal mortality remains unacceptably high in nearly all ANE countries, ranging from 539 deaths per 100,000 live births in Nepal to 44 in Jordan (compared with eight in the United States). Most governments, with USAID and other donor assistance, are addressing this issue through a variety of strategies, including improved antenatal and postnatal care, knowledge of risks and providing access to essential and emergency obstetric care, and training to ensure delivery by skilled birth attendants.

In efforts to reduce maternal mortality, a USAID-supported program in Indonesia has developed a prototype training curriculum for midwives in essential obstetric care and life-saving skills. The curriculum is used in conjunction with strengthening the capacity

of the Indonesia Midwives Association to assume responsibility for supervision of village midwives and for regular continuing education. The Safe Birth kit, a simple technology developed and marketed nationwide in Nepal, is being introduced into neighboring countries. In West Bank/Gaza, USAID is developing a pilot intervention to expand and improve maternal and child health and family planning education and services.

**HIV/AIDS.** In 1996, Asia for the first time surpassed Africa in the number of new HIV infections reported in a one-year period. The epidemic is spreading more rapidly in Asia than anywhere else, particularly in countries such as Cambodia, India, and Vietnam, where high-risk behavior occurs. In Cambodia, evidence from antenatal clinics has shown that HIV infection has moved more rapidly into the general population than in any other surrounding country, including Thailand.

Asia's large population means that the ANE region will ultimately bear much of the global AIDS burden. India alone reports 4.1 million cases of HIV, or nearly 15% of the world total. The incidence of new cases in both Indonesia and the Philippines remains low, and studies are underway to determine the basis for this continuing trend, to see what can be learned and adapted in other places.

**Infectious Diseases.** The ANE bureau has drafted a new infectious disease strategy that calls for initial activities in strengthening surveillance for malaria in Nepal, Cambodia, and the Philippines and improving the delivery of DOTS (directly observed therapy strategy) treatment for tuberculosis in Bangladesh, India, and the Philippines. Both malaria and tuberculosis are increasing in the Asia region, with antimicrobial resistance a factor in each. Malnutrition and HIV/AIDS are additional factors influencing the

spread of disease, making women and children particularly vulnerable to each illness. TB is the single leading cause of death in women of reproductive age worldwide, (240,000 female deaths annually in Asia alone).

**Asian Financial Crisis.** Asia's financial crisis is beginning to abate and in some places has been less severe than expected in terms of health status. In Indonesia, early evidence suggests an increase in malnutrition and anemia among children in some areas; however, the increase could be related not only to decreased purchasing power but also to the year-long drought that preceded the crisis. While immunization coverage seems to have remained at high levels in Indonesia, Vitamin A deficiency in both mothers and children has occurred, suggesting problems with the Vitamin A supplementation program. It is too soon to assess the long-term effects, if any, on the health status of women and children in USAID-assisted countries in Asia, but donors and governments are monitoring the situation closely.

# Europe and Eurasia: Child Survival Activities Strengthen Health Systems

## *USAID-Assisted Countries*

### **Eastern and Central Europe:**

Albania, Bosnia, Bulgaria, Croatia, Hungary, Kosovo, Macedonia, Slovakia

### **Eurasia:**

Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan

The Europe and Eurasia (E&E) region faces child health and survival concerns markedly different from those of developing countries. Rates of infant and child mortality vary widely, with some countries comparing favorably with industrialized countries and others with rates similar to developing countries. The shift to market economies that began in 1990 adversely affected already troubled health systems, and, in many cases led to the deterioration of maternal and child health services and an unraveling of social safety nets for families in need. The E&E region has received only a small portion of the child survival earmark. Child survival activities are funded from the Freedom Support Act and SEED Act.

Early child survival activities included strengthening immunization programs, polio eradication, control of diarrheal disease and acute respiratory infections, and improved child nutrition. While these programs will continue in some countries, current and future efforts extend to health partnerships, health care financing, and community-based primary health care, including a focus on child health and welfare programs. Specific examples of USAID support include the following:

- **hygiene, literacy, and welfare programs for street children** in Albania, Slovakia, and Ukraine;
- **efforts to reduce institutionalization and improve the lives of institutionalized children** in Romania and Russia;
- **programs to address birth defects and physical and psychological illnesses** of child victims of the Chernobyl disaster;
- **neonatal and pediatric care** programs through health partnerships in many E&E countries; and
- **support to reduce children's exposure to lead and other heavy metals** in Poland, Romania, and Russia.

Maternal health, in the form of safe motherhood and healthy birth outcomes, is a major focus of the health partnership program. The health partnership program is also implementing a neonatal resuscitation program in Russia, Ukraine, and Uzbekistan. The latter activity is designed to reduce both infant mortality and the number of developmental disabilities that can occur from oxygen deprivation in the first minutes of life.

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In Eastern Europe, especially Romania, one major focus of child health efforts has been the institutionalization of abandoned children and a high incidence of pediatric AIDS, which resulted from contamination of the blood supply and inappropriate injection practices for newborns. The situation has improved, and USAID is now concentrating on child welfare programs to prevent child abandonment by providing support for families and children in crisis. The economic crisis has contributed to an increase in institutionalized children in Romania as well as Russia.

USAID has assisted the MOH in Romania in improving its Expanded Program on Immunization (EPI) and introducing Hepatitis B vaccine into the newborn immunization schedule. The Agency is also promoting reform of clinical practices, including safe injection procedures, to reduce and prevent transmission of HIV and Hepatitis B to children.

### *Epidemic Lays Groundwork for Improved Immunization System*

The collapse of the Soviet Union triggered epidemic outbreaks of diphtheria in all 15 of the former Soviet republics. The emergence of the epidemic, identified relatively quickly by the still-existing surveillance system, was an early symptom of a collapsing health system. Vaccination coverage rates had declined for the entire population, but especially among infants and children. Contraindications regarding vaccines reduced compliance and resulted in a large number of unimmunized children. Moreover, evidence suggests that, in the past, a fairly significant number of young children had been vaccinated with reduced-potency vaccine intended for older children and adults. Such vaccine did not permit a proper immune response, leaving children unprotected.

In addition, given that vaccines and other supplies had always been provided centrally, the former Soviet Union lacked an established method of procuring additional stock, once current supplies became exhausted.

USAID and other donors responded quickly, at first with emergency humanitarian measures and then with large-scale immunization programs that helped lay the foundation for more sustainable and effective health care systems. Through mass campaigns over a five-year period, the incidence of diphtheria declined almost as abruptly as it arose.

In 1994, USAID and the government of Japan led the formation of an Interagency Immunization Coordination Committee (IICC) in the Newly Independent States (NIS) that, through USAID, UNICEF, WHO, International Fund for the Red Cross, and other bilateral donors provided technical assistance in diphtheria control. Polio eradication and the development of self-reliance in routine immunization have also been IICC priorities. Intensive efforts resulted in higher vaccination coverage in many countries by the end of 1995 as well as significant changes in vaccination policy, such as a reduction in contraindications and revision in immunization schedules. For example, Kazakhstan is saving over \$1 million per year by eliminating redundant vaccinations.

Today, the policy goal in most NIS countries is high immunization coverage at appropriate ages using vaccines of recognized high quality. Vaccine supplies have been stabilized in most countries, and programs are in place to ensure self-reliance in vaccines and other necessary commodities. If current measures had been in effect in Russia in early 1990, more than 270,000 cases of diphtheria and 7,000 deaths could have been prevented.

New approaches to information management and disease surveillance have been introduced and several countries in the region are adopting them on a national basis. A strong disease surveillance system and laboratory network are critical elements in the drive to eradicate polio. The IICC continues to be a dynamic force in coordinating donor inputs and is in the process of including other infectious diseases.

### *Pilot Project in Managing Diarrheal Disease and ARI*

Because health workers in NIS countries were not familiar with WHO-approved clinical case management approaches to common childhood illnesses, USAID undertook a pilot project at the regional level in three countries: Kazakhstan, Kyrgyzstan, and Uzbekistan. The project goal was to improve health worker capacity to manage diarrheal disease and acute respiratory infections in children, especially with respect to communication with caretakers on home care and prevention. Although not part of the original project design, breastfeeding promotion was added to the pilot project in all three countries.

In just a year and a half, the results were significant: screening, history taking, clinical examination, and prescription patterns for ARI cases improved, and communication with child caretakers both increased and improved. Health workers' knowledge and practice improved significantly. The pilot project introduced new methods of supervision that moved away from enforcement of punitive controls to a active support and joint problem solving.

The pilot project was designed to serve as models for wider replication. The results suggest that it could be usefully and economically extended to other NIS countries.

### *Sharing Experience through Technical Exchange*

In Moldova, USAID supported a training workshop in international vaccine procurement, in which officials learned to solicit competitive bids, screen responses, negotiate prices, and select a vaccine supplier. The Japanese government supported the effort by providing funding for Moldovan officials to purchase vaccines on the international market, ensuring that newly acquired skills were put to immediate use. A six-part vaccine procurement manual, in the Russian language, was developed as a result of the work; WHO is introducing the manual throughout the region. The manual is expected to be used as the standard text for vaccine procurement throughout the world.

In May 1998, USAID organized and supported a technical exchange whereby national and subnational staff from various Central Asian republics came together to share six years of experience in post-Soviet immunization programs. The agenda included immunization communications strategies, delivery of services to displaced populations, issues related to the introduction of Hepatitis B vaccine, creating partnerships with NGOs, surveillance, training of health workers and gaining acceptance of modern immunization policies. The meeting provided a forum for information exchange and dialogue, as well as an opportunity for program managers throughout the region to work together for the first time to solve problems without external assistance. The meeting permitted a rich exchange of ideas and experiences and represents a highly successful aspect of USAID assistance.

## *Remaining Challenges*

The shift from the centrally managed system of the Soviet era to decentralized systems presents special challenges. Most NIS countries need more experience in national planning as well as exposure to new approaches for the implementation of child survival interventions. Training in vaccine procurement procedures needs to be expanded to countries not yet reached, and national regulatory authorities need to be established to ensure that quality standards are reached and maintained.

IMCI is being introduced in NIS countries and is resulting in more efficient and cost-effective treatment of childhood illnesses at the facility level. Earlier training in case management for diarrheal disease and ARI in three regions showed how quickly health workers accept and implement improved methods—methods that result in significant cost savings. Treating ARI in the traditional manner cost approximately \$5 per child while the new approach costs about 11 cents per child. Such cost-saving approaches to treatment need to be expanded to other countries.

The NIS has seen a resurgence in infectious diseases, including tuberculosis, HIV/AIDS and STIs, hepatitis, typhoid, and malaria, all of which adversely affect children. In addition, the region is grappling with hospital- and clinic-based infections and increasing numbers of antibiotic-resistant infections. Despite progress, many countries still adhere to outdated diagnostic and treatment systems.

Finally, new approaches for information management and disease surveillance need to be expanded within the context of decentralization. International approaches and standards for data collection,

analysis, and response need to be more fully introduced so as to empower local health officials to apply resources in the most cost-effective manner to ensure public health.

## Latin America and the Caribbean: Building on Success

### *USAID-Assisted Countries*

Bolivia, Brazil, Colombia, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Peru, Dominican Republic

The Latin America and Caribbean region is making steady progress in child survival, although the major causes of infant and child mortality in the region continue to be diarrheal diseases and acute respiratory infections, with malnutrition as an underlying cause of mortality. Improved and sustained immunization coverage has led to a significant decrease in deaths from vaccine-preventable diseases. Neonatal tetanus is no longer a public health problem, and measles has been dramatically reduced in most countries. The region was certified polio-free in 1994, and the infrastructure put in place by the polio eradication effort is now being used to strengthen overall disease surveillance and reporting, especially for measles.

Under-five mortality ranges from 160 per 1,000 live births in Haiti to 38 per 1,000 live births in El Salvador. A major problem in several of the LAC child survival focus countries is the vast differential in mortality between the majority population and indigenous groups. Some countries continue to face difficulties in providing services to their entire populations, including those residing in isolated areas.

Diarrheal diseases and acute respiratory infections account for almost 30% of child deaths. The Pan American Health Organization (PAHO) estimates that access to ORT is over 80% in both the Caribbean region and South America. Bolivia and Haiti have

the lowest access rates, estimated at 60% and 52%, respectively. The proportion of cases in which oral rehydration is used, however, is much lower; in many countries, including Bolivia, El Salvador, Haiti, and Peru, ORT is used in fewer than half of diarrhea cases. In Bolivia, a USAID-supported project has successfully promoted mobilization of the private sector in providing products and services to treat and prevent diarrheal disease and pneumonia.

Maternal mortality in the LAC region averages 176 deaths per 100,000 live births, ranging from 600 in Haiti to 110 in the Dominican Republic, although different sources report widely-varying estimates, none of which are fully reliable. Poor maternal health and nutrition and births unattended by skilled providers are responsible for a large proportion of maternal deaths.

As infant and under-five mortality decline, perinatal causes of mortality represent a larger percent of all under-five deaths. It is estimated that more than 50% of infant deaths occur in the first week of life.

Malnutrition is a significant underlying factor in both maternal and child mortality, with great variation throughout the region, among both countries and different ethnic groups within countries. Stunting, resulting from chronic malnutrition, ranges from a high

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of 50% of children under-five in Guatemala to 10% in Brazil. The countries with the highest levels of malnutrition tend to report the highest infant and child mortality rates, reflecting the close association between malnutrition and a child's susceptibility to disease and death.

## *Strategies and Programs*

USAID was the largest external donor to the successful polio eradication program in the Americas, and now supports a follow-on, regional measles eradication effort coordinated by the Pan American Health Organization. Between 1994 and 1996, the number of reported measles cases in the region declined from 1,997 to 164, providing hope that measles could be eliminated.

The LAC Bureau, in collaboration with PAHO, supports five regional initiatives, implemented by PAHO and USAID's Global Bureau, Population Health and Nutrition Center (G/PHN) cooperating agencies. The programs are IMCI, maternal mortality, health sector reform, antimicrobial resistance, and vaccination. USAID child survival efforts are generally moving from service provision to more sustainable approaches of strengthening health systems and ensuring access to and availability of high quality health services.

LAC has developed a new regional infectious disease initiative that focuses on the correct use of drugs to reduce antimicrobial resistance and strengthen drug resistance surveillance systems.

## *Challenges Ahead*

**Reaching hard-to-reach populations.** Mortality and morbidity remain high among disadvantaged populations, particularly in underserved rural areas. USAID is supporting special efforts to improve

access to health services in these areas and to measure progress. In Honduras, for example, differentials between rural and urban areas are used to determine how well the program is reaching the underserved; in Guatemala, programs were recently redesigned to focus on indigenous populations.

**Expanding IMCI.** Eight child survival emphasis countries have made policy commitments to the integrated approach to treatment and prevention. The challenge now is to help those countries implement the training and activities that will allow parents, communities, and health care providers to work together to improve the health of children. Three major components are addressed by the Initiative: provider training and competence, systems strengthening, and improving the ability of caretakers to recognize the severity of illness and how to access appropriate care.

**Reducing maternal and neonatal deaths.** To reduce mortality and improve maternal and infant health, LAC missions and regional programs promote a range of interventions that include prenatal care, births assisted by trained medical personnel, emergency obstetric care, early postpartum follow-up, and birth spacing. Maternal and infant nutrition are other important components addressed by USAID.

**Health sector reform.** LAC countries are facing issues related to the financing and organization of health services and are introducing a variety of new solutions to address these issues. USAID supports PAHO monitoring of reform processes and outcomes. USAID fosters improvements in the information base for decision making and promotes exchanges to ensure that countries find optimal solutions based on experience.

Decentralization offers special challenges as resource allocation and decision making devolve to the local level. Competing priorities and local inexperience can seriously affect the delivery of essential health services. Training of local and national authorities in strategic planning and management are critical elements that USAID supports to ensure continuity of health care. USAID also supports strengthened information systems.

**Hurricanes Mitch and Georges.** The two hurricanes exacerbated existing disease problems, especially in Honduras and Nicaragua. Health systems were inadequate, water and sewer systems damaged and crops, food sources, schools, and homes destroyed. Reconstruction of health systems for surveillance and community response are priorities in post-hurricane programming. The USAID LAC regional program will support reconstruction of the cold chain for vaccines, water and sanitation systems, strengthening of disease surveillance, laboratory capacity, epidemiology training, and Ministry of Health capacity at the community level.

## **ANNEX C**

### **Funding Tables**





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